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VOL. XVIII. NO. 5.

MAR. 1, 1890.

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DEPARTMENT OF AGRICULTURE

PEACE • ON EARTH • A GOOD • WILL • TOWARD MEN

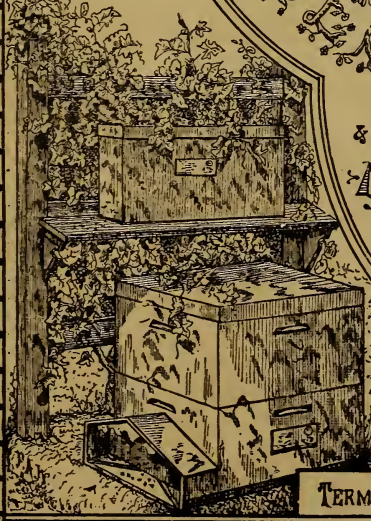


CLEANING
IN

BEE CULTURE

DEVOTED
TO
BEEKEEPING

& HOME INTERESTS.
MEDINA, OHIO
BY
A. ROOT



S. W. Conrad

TERMS, ONE DOLLAR PER YEAR.

ENTERED AT THE POSTOFFICE, MEDINA, OHIO, AS SECOND-CLASS MATTER.

ADVERTISEMENTS.

We require that every advertiser satisfy us of responsibility and intention to do all that he agrees, and that his goods are really worth the price asked for them. Patent-medicine advertisements, and others of a like nature, can not be inserted at any price.

Rates for Advertisements.

All advertisements will be inserted at the rate of 20 cents per line, Nonpareil space, each insertion; 12 lines of Nonpareil space make 1 inch. Discounts will be made as follows:

On 10 lines and upward, 3 insertions, 5 per cent; 6 insertions, 10 per cent; 9 insertions, 15 per cent; 12 insertions or more, 20 per cent; 24 insertions or more, 25 per cent.

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No additional discount for electrotype advertisements. A. I. Root.

CLUBBING LIST.

We will send GLEANINGS—

With the American Bee-Journal, W'y	(\$1.00)	\$1.75
With the Canadian Bee Journal, W'y	(1.00)	1.75
With the Bee Hive,	(.30)	1.20
With the Bee-Keepers' Review,	(.50)	1.40
With the British Bee-Journal,	(1.50)	2.40
With all of the above journals,		6.40
With American Apiculturist,	(\$1.00)	1.70
With Bee-Keepers' Advance and Poul-		
tryman's Journal.	(.50)	1.45

With American Agriculturist,	(\$1.50)	2.25
With American Garden,	(2.00)	2.60
With Prairie Farmer,	(1.50)	2.35
With Rural New-Yorker,	(2.00)	2.90
With Farm Journals,	(.50)	1.20
With Scientific American,	(3.00)	3.75
With Ohio Farmer,	(1.00)	1.90
With Popular Gardening,	(1.00)	1.85
With U. S. Official Postal Guide,	(1.50)	2.25
With Sunday-School Times, weekly,	(1.50)	1.75
With Drainage and Farm Journal,	(1.00)	1.75
With Illustrated Home Journal,	(1.00)	1.75
With Orchard and Garden,	(.50)	1.40
With Cosmopolitan, (new sub. to Cos.)	(2.40)	2.40

[Above Rates include all Postage in U. S. and Canada.]

BEES
16tdb

SEND for a free sample copy of the BEE JOURNAL—16-page Weekly at \$1 a year—the oldest, largest and cheapest Weekly bee-paper. Address BEE JOURNAL, Chicago, Ill.



You can not look over the back No's of GLEANINGS, or any other periodical with satisfaction, unless they are in some kind of a binder. Who has not said—"Dear me, what a bother—I must have last month's journal and it is nowhere to be found?" Put each No. in the Emerson binder as soon as it comes, and you can sit down happy, any time you wish to find anything you may have previously seen, even though it were months ago.

Binders for GLEANINGS (will hold them for one year) gilt lettered, for 60 cts.; by mail, 12 cts. extra. Ten, \$5.00; 100, \$45.00. Table of prices of binders for any periodical, mailed on application. Send in your orders. A. I. ROOT, Medina, Ohio.

Names of responsible parties will be inserted in any of the following departments, at a uniform price of 20 cents each insertion, or \$2.00 per annum, when given once a month, or \$4.00 per year if given in every issue.

Untested Queens

FOR \$1.00 FROM JULY 1ST TILL NOV. 1ST.

Names inserted in this department the first time without charge. After, 20c each insertion, or \$2.00 per year.

Those whose names appear below agree to furnish Italian queens for \$1.00 each, under the following conditions: No guarantee is to be assumed of purity, or anything of the kind, only that the queen be reared from a choice, pure mother, and had commenced to lay when they were shipped. They also agree to return the money at any time when customers become impatient of such delay as may be unavoidable.

Bear in mind, that he who sends the best queens, put up most neatly and most securely, will probably receive the most orders. Special rates for warranted and tested queens, furnished on application to any of the parties. Names with *, use an imported queen-mother. If the queen arrives dead, notify us and we will send you another. Probably none will be sent for \$1.00 before July 1st, or after Nov. If wanted sooner, or later, see rates in price list.

*A. I. Root, Medina, Ohio.	
*H. H. Brown, Light Street, Col. Co., Pa.	7tfd89
*Paul L. Viallon, Bayou Goula, La.	7tfd89
*S. F. Newman, Norwalk, Huron Co., O.	7tfd89
*Jos. Byrne, Ward's Creek, East Baton Rouge	
C. C. Vaughn, Columbia, Tenn.	74tfd Par., La.
Wm. L. Ashe, Edwardsville, Mad. Co., Ill.	21tfd88
J. M. Jenkins, Wetumpka, Ala.	11tfd88
*Oliver Hoover & Co., Snyderstown, Northum-	9tfd89
17tfd89	berland Co., Pa.
Abbott L. Swinson, Goldsboro, Wayne Co., N. C.	
C. R. Mitchell, Ocala, Marion Co., Fla.	5tfd
E. Burke, Vincennes, Knox Co., Ind.	9tfd89
N. A. Knapp, Rochester, Lorain Co., O.	9-8-1890
	15tfd89

Hive Manufacturers.

Who agree to make such hives, and at the prices named, as those described on our circular.

A. I. Root, Medina, Ohio.	
P. L. Viallon, Bayou Goula, Iberville Par., La	7tfd89
C. W. Costellow, Waterboro, York Co., Me.	7tfd89
R. B. Leahy, Higginsville, Laf. Co., Mo.	21tfd88
J. M. Jenkins, Wetumpka, Ala.	9tfd89
W. T. Falconer Mfg. Co., Jamestown, N. Y.	1tfd

MUTH'S

HONEY-EXTRACTOR,

SQUARE GLASS HONEY-JARS,

TIN BUCKETS, BEE-HIVES,

HONEY-SECTIONS, &c., &c.

PERFECTION COLD-BLAST SMOKERS.

Apply to CHAS. F. MUTH & SON,

CINCINNATI, O.

P. S.—Send 10-cent stamp for "Practical Hints to Bee-Keepers." (Mention Gleanings.) 1tfd

APIARIAN SUPPLIES CHEAP.

BASSWOOD V-GROOVE SECTIONS, \$2.75 to \$3.75

PER M. SHIPPING-CASES VERY LOW.

SEND FOR PRICES.

GOODSELL & WOODWORTH MFG. CO.,

3tfdb ROCK FALLS, ILLINOIS.

In responding to this advertisement mention GLEANINGS.

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The Bee-keepers' REVIEW

A 50-cent monthly that gives the cream of apicultural literature; points out errors and fallacious ideas; and gives, each month, the views of leading bee-keepers upon some special topic. Three samples free. Send for them, and learn how to get the back numbers cheaply.

W. Z. HUTCHINSON, Flint, Mich.

☞ In responding to this advertisement mention GLEANINGS.

The SWARM-HIVER

Sent by mail, and the American Apiculturist one year, \$1.50. Circulars and sample copies free.

Address AMERICAN APICULTURIST, Wenham, Mass.

☞ In responding to this advertisement mention GLEANINGS.

CARNIOLANS.

We make Carniolan bees and queens a specialty. See our prices before placing your orders. Our stock of Carniolans can not be excelled by any. Descriptive circular and price list for 1890 now ready. Write for it. Address F. A. LOCKHART & CO., 57fd (Formerly of Andrews & Lockhart.)

Pattens Mills, Wash. Co., N. Y.

☞ In responding to this advertisement mention GLEANINGS.

UNTESTED ITALIAN QUEENS AT \$1, and 4-frame nuclei at \$3.50, after May 1st. Send in orders now.

4-10db S. J. WAKEFIELD, Autreville, S. C.

CARNIOLAN QUEENS,

BRED FROM AMBROZIC AND BENTON Imported 1889 Queens.

Circular of Supplies | J. B. KLINE's Apiary, Topeka, Kas.

☞ In responding to this advertisement mention GLEANINGS.

FOR PURE ITALIAN BEES, POLAND-CHINA SWINE, WHITE AND BLACK FERRETS, WHITE RABBITS, WHITE AND BROWN LEGHORN CHICKENS, AND MALLARD DUCKS. Address N. A. KNAPP, 4tfdb Rochester, Lorain Co., Ohio.

Bees and Poultry

The Canadian Bee Journal and Poultry Weekly is the best paper extant devoted to these specialties. 24 pages, WEEKLY, at \$1.00 per year. Live, practical, interesting. Nothing stale in its columns. Specimen copies free. Subscribers paying in advance are entitled to two insertions of a five-line advert (40 words) in the Exchange and Mart column.

THE D. A. JONES CO., BRETON, ONTARIO, CAN.

FOR THE SEASON OF 1890.

Headquarters in the South.

TWELFTH ANNUAL CATALOGUE NOW READY.

A steam-factory exclusively for the manufacture of Bee-keepers' Supplies.

ITALIAN QUEENS.

Tested, ready in March. Untested, by April 1st. Contracts taken with dealers for the delivery of a certain number of queens per week, at special figures.

FOUR-FRAME NUCLEUS,

with pure Italian queen, containing 3 pounds of bees when secured, in April and May, \$4.00; after, 25 cts. less. Safe arrival and satisfaction guaranteed on all queens and nuclei.

For more particulars, send for Twelfth Annual Catalogue.

P. L. VIALLO, N.

Bayou Goula, Iberville Parish, La.

☞ In responding to this advertisement mention GLEANINGS.

For Sale.—For cash, cheap, or trade for a good piece of land, from 50 to 200 colonies of Italian bees in the Quinby hive, and a few in Root's Simplicity. Too much work, with other business.

2tfdb G. HARSEIM, Secor, Woodford Co., Ills.

FOR FOLDING PAPER BOXES send to 21-8db A. O. CRAWFORD, S. Weymouth, Mass.

FOR SALE!

One of the best located apiaries in Iowa, 150 Colonies, in Langstroth hives. Handsome two-story frame residence. Twenty acres land. All necessary out-buildings. Also fine flock White Wyandottes. Two cows, nice span driving horses. Never a failure of honey. White clover, basswood, golden-rod, buckwheat, etc. House nearly new, nicely decorated paper, a very pleasant home. Price \$2500.

23tfdb C. A. SAYRE, Sargent, Floyd Co., Iowa.

☞ In responding to this advertisement mention GLEANINGS.

"HANDLING BEES." Price 8 Cts.

A chapter from "The Hive and Honey Bee, Revised," treating of taming and handling bees; just the thing for beginners. Circular, with advice to beginners, samples of foundation, etc., free.

3tfdb CHAS. DADANT & SON, Hamilton, Hancock Co., Illinois.

☞ In responding to this advertisement mention GLEANINGS.



Eaton's Improved SECTION CASE. BEES AND QUEENS. Send for free catalogue. Address FRANK A. EATON, Bluffton, Ohio.

☞ In responding to this advertisement mention GLEANINGS.

Maple Sugar and The Sugar-Bush

THIS IS A NEW BOOK BY

PROF. A. J. COOK,

AUTHOR OF THE

BEE-KEEPER'S GUIDE, INJURIOUS INSECTS OF MICHIGAN, ETC.

The name of the author is enough of itself to recommend any book to almost any people; but this one on Maple Sugar is written in Prof. Cook's happiest style. It is

☞ PROFUSELY ILLUSTRATED, ☞

And all the difficult points in regard to making the very best quality of Maple Syrup and Maple Sugar are very fully explained. All recent inventions in apparatus, and methods of making this delicious product of the farm, are fully described.

PRICE: 35 Cts.; by Mail, 38 Cts.

A. I. ROOT, - - Medina, O.

Wants or Exchange Department.

Notices will be inserted under this head at one-half our usual rates. All ads intended for this department must not exceed 5 lines, and you must say you want your ad in this department, or we will not be responsible for any error. You can have the notice as many lines as you please; but all over five lines will cost you according to our regular rates. This department is intended only for bona-fide exchanges. Exchanges for cash or for price lists, or notices offering articles for sale can not be inserted under this head. For such our regular rates of 20 cts. a line will be charged, and they will be put with the regular advertisements.

WANTED.—To exchange for land or stock merchandise, a first-class apiary, 175 colonies. No better location. Crop, past season, 18,000 lbs. Bees need not be moved. Every thing complete, ready for business. Found-machines, 4-horse-power, etc. Good trade direct with consumers. Give particulars for particulars.
H. L. GRAHAM,
3-45a Letts, Louisa Co., Ia.

WANTED.—To exchange 1000 new bee-hives, all complete, for bees, or will furnish hives, sections, and foundation, for share of the honey, to parties living in Maryland, Virginia, or West Virginia. Write for particulars to
F. DANZENBAKER,
1301 K. St., N. W., Washington, D. C.

WANTED.—To exchange Gregg, Souhegan, Early Ohio, and Tyler raspberry-plants, Warfield, Bubach, Jessie, May King, and Hoffman strawberry-plants, A No. 1 plants, and true to name, for sections, honey, beeswax, or pear-trees. Satisfaction guaranteed.
E. T. FLANAGAN, Belleville, Ills.
3-5-7d

WANTED.—To exchange bees and queens, for Barnes saw, Novice extractor, honey-knife, and Excelsior printing-press with $5\frac{1}{2} \times 9\frac{1}{2}$ -in. chase.
3-11d S. A. SHUCK, Liverpool, Ills.

WANTED.—Bee-help for 1890. One man with experience, and two desiring to learn the practical part of apiculture. Must be strictly temperate. State wages expected, and other particulars.
3 6db S. I. FREEBORN, Ithaca, Wis.

WANTED.—To exchange all kinds of wall paper, for honey.
J. S. SCOVEN, Kokomo, Ind.

WANTED.—To exchange 200 colonies of bees, in S. hives, for any thing useful on plantation.
1tfdb ANTHONY OPP, Helena, Ark.

WANTED.—To exchange foundation, for beeswax. Sample on application.
Avery's Island Apiary, Avery, La.

WANTED!!! I want a man to take charge of an apiary.
2-5db F. D. LACY,
Nirvana, Lake Co., Mich.

WANTED.—To exchange from one to 1000 books, of new publication, for bees and apiarian fixtures. F. D. LACY, Nirvana, Lake Co., Mich. 4tfdb

WANTED.—I want a small-size baling-press, for which I will exchange folding paper boxes, Italian bees, hives, extractors, or job printing.
4-5d A. O. CRAWFORD, S. Weymouth, Mass.

WANTED.—To exchange nursery stock for shotgun or lawn-mower.
4-56d GEO. GOULD,
Villa Ridge, Pulaski Co., Ill.

WANTED.—To exchange Ply. Rock, Langshan, and Wyandotte cockerels for Wyandotte hens, thoroughbred. Correspondence solicited.
45d W. H. SWIGART, Dixon, Ill.

WANTED.—To exchange bees and queens for nursery stock, or will pay cash. C. E. PRICE,
5d Smithtown Branch, Suffolk Co., N. Y.

WANTED.—To exchange a 6-inch Pelham fdn. mill, in good order, one dipping-tank, one 10-inch planer saw, one 10-inch rip-saw, one 10-inch cut-off saw; 8-inch bevel saw; one 6-inch rip-saw; one saw-mandrel, for tin sap-buckets, new or second hand, Post's Eureka spouts, or offers.
5d F. W. DEAN,
New Milford, Pa.

WANTED.—To exchange one Acme barrow, new, for Poland-China swine, either sex, or Shropshire ewes, or any thing I can use on the farm or in the apiary. LUTHER PURDY, Killbuck, O. 5tfdb.

WANTED.—To exchange for supplies, or part payment for Barnes saw, one Twombly knitting-machine, with coarse plate; nearly new.
5d J. M. MOORE, Holden, Mo.

WANTED.—To exchange 2 breeding-pens, one cockerel and 6 hens each, White P. Rocks, or White Wyandottes, A No. 1 stock; 2 pairs of premium birds, for full colonies of bees, to be shipped in April or the first of May.
5d J. B. MASON,
Mechanic Falls, Me.

WANTED.—To exchange one 5 x 8 photograph outfit for a foot-power saw, bicycle, apiarian supplies, or any thing useful on a farm.
5d P. M. LOCKWOOD, Sand Lake, Kent Co., Mich.

WANTED.—To exchange a quarter-plate camera, with stand, head-rest, cartons, and chemicals, for small self-inking printing-press and type, or offers.
F. T. HALL, Lochiel, Duin Co., Wis.

WANTED.—To exchange thin fdn. or queen-restrictors for honey.
5d C. W. DAYTON,
Bradford, Chick. Co., Iowa.

WANTED.—To exchange Cuthbert raspberry-roots for beeswax, L. fdn., and Shaffer's Colossal raspberry-roots.
5-7d M. ISBELL,
Norwich, Chenango Co., N. Y.

WANTED.—To exchange empty Simp. L. combs at 10 cts. each, for wax or offers.
5tfdb OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.

WANTED.—To exchange Turner and Cuthbert raspberry-plants for pure Italian queens, eggs for hatching, etc.
5-6-7d E. R. MILLER,
Garden City, Cass Co., Mo.

WANTED.—To exchange 11 bound volumes of GLEANINGS, from 1878 to 1889, inclusive, for a Webster's Unabridged Dictionary, or a copying-press or offers.
5d W. S. WRIGHT,
Battle Creek, Mich.

WANTED.—To exchange comb honey and Japanese buckwheat for extracted honey and comb foundation.
5 6d F. WILCOX,
Mauston, Juneau Co., Wis.

FOR SALE—6 colonies hybrid bees in Root Dove-tailed hives at \$4.00 per colony. Address
5-6d T. L. THOMPSON, Blairsville, Indiana Co., Pa.

2 SIMPLICITY BEE-HIVES, 2 covers, 1 T super and 56 sections, in flat, \$1.25. All kinds of hives and extractors made to order.
5-7d T. A. GUNN, Tullahoma, Tenn.

SUPPLIES!

Send for circular—free. **WALTER S. POWDER,**
175 E. Walnut St., Indianapolis, Ind.
5tfdb (Successor to F. L. Dougherty.)

READY to Mail, tested Italian queens cheap, from imported mothers. Untested in season. Send for circular. **SIMON P. RODDY,** Mehanicstown, Md.
5-7-9d

J. E. Neyland, McLane, Erie Co., Pa.

BREEDER OF CHOICE
RED CAPS AND ANDIGOLOES EGGS; \$3 PER 15.
Also Golden Wyandottes, White Plymouth Rock, Golden Spangled Hamburg, Black Hamburg eggs, \$2.00 per 15. I have taken first prize wherever shown.
In responding to this advertisement mention GLEANINGS.

HOME EMPLOYMENT. — AGENTS
wanted everywhere, for the HOME JOURNAL—a grand family paper at \$1 a year. Big cash premiums. Sample FREE. **THOS. G. NEWMAN & SON,**
246 East Madison Street, - CHICAGO, ILLS.
In responding to this advertisement mention GLEANINGS.

A New Discovery.

THE COMMON-SENSE HONEY-EXTRACTOR is strictly scientific, powerful, durable, handy, clean and rapid, and differs from all others, and is cheaper than the cheapest at slaughter prices. CIRCULARS FREE. 5d

REV. A. R. SEAMAN,
New Cumberland, Hancock Co., W. Va.

In responding to this advertisement mention GLEANINGS.

ALBINO AND ITALIAN



QUEENS AND BEES FOR 1890.

If you ask for the best, The reply, 'Albino, I!' If you ask why, I can only refer you to the many that cry, 'Albino for I!' In my circular you can see why. Address **S. VALINTINE**, 5d Hagerstown, Wash. Co., Md.

In responding to this advertisement mention GLEANINGS.

SEEDS. Six pkts. of my choicest Flower Seeds, 10c. Beautiful catalog free. **F. B. MILLS**, Thorn Hill, N. Y.

Black and Hybrid Queens For Sale.

For the benefit of friends who have black or hybrid queens which they want to dispose of, we will insert notices free of charge, as below. We do this because there is hardly value enough to these queens to pay for buying them up and keeping them in stock; and yet it is oftentimes quite an accommodation to those who can not afford higher-priced ones.

20 black queens for sale now at 50 cents each.

W. T. LYONS, Decherd, Franklin Co., Tenn.

Black queens, 3 for one dollar; also a few hybrids. 5tdfb **H. FITZ HART**, Avery P. O., Iberia Par., La.

Wire Cloth.

For door and window screens, tacking over hives and nuclei for shipping, making bee and queen cages, and a variety of purposes. We have the following list of green and black wire cloth which is not exactly first class, but is practically as good for the purposes mentioned, and at prices MUCH BELOW the ordinary price. You can no doubt select from this list a piece to suit your needs. Price in full pieces, 1 1/4 cts. per square foot. When we have to cut it, 2 cts. In case the piece you order may have been taken by some one else before your order comes, please say whether we shall send the nearest in size, or cut one the size ordered at 2 cts. per ft., or give a second or third choice.

No. of Rolls, and Color.	Width, in's.	Length, ft.	Sq. Feet.	Price of a full roll.
10 green	8	100	67	\$1.17
1 green	10	100	83	1.46
25 green	12	100	100	1.75
1 green	14	12	14	.25
2 green	16	100	133	2.33
1 black	17	100	142	2.47
1 black	18	100	150	2.62
5 green	18	100	150	2.62
1 black	20	100	167	2.92
1 black	22	71	158	2.24
9 green	24	100	200	3.50
1 black	24	100	200	3.50
64 green	26	100	217	3.50
18 green	28	100	233	4.08
1 black	30	100	250	4.37
6 green	30	100	250	4.37
3 black	30	100	250	4.37
14 green	32	100	267	4.67
1 black	32	100	267	4.67
1 green	34	100	283	4.91
14 green	36	100	300	5.25
1 black	36	100	300	5.25
8 black	38	100	317	5.54
3 green	38	100	317	5.54
3 black	40	100	333	5.83
1 green	40	100	333	5.83
8 black	42	100	350	6.12
1 green	44	100	367	6.42

A. I. ROOT, Medina, Ohio.

GUARANTEED FOUNDATION

For Sale Cheap. Write for prices.

E. R. MILLER,
Garden City, Cass Co., Mo.

5-7-9d

REVIEW OUR 1890

16-page circular of bee-keepers' supplies, etc. Also note prices of our choice strain of Italian bees. Circular free. Address **JNO. NEBEL & SON**, 5tdfb High Hill, Mo.

FOR SALE -- PLANER.

One second-hand Hoyt Bros. single surfacer, 26 in. Complete with countershaft, 2 sets of knives, \$75.00. **B. H. WOOD & CO.**, MEDINA, OHIO.

H. G. FRAME, NORTH MANCHESTER, INDIANA,
Breeder of Italian and Carniolan Queens. Bees by the pound and nucleus. Price list free. 5tdfb Reference First National Bank.

FIRST-CLASS BROOD - FRAMES cut to order, any size. Per 100, \$1.50; 500, \$7.00; 1000, \$13.50. **C. W. VANHOUTEN**, Smithfield, Ful. Co., Ill.



**B
EES
EES
EES**



Carniolan queens and bees a specialty. Seven years' experience with those bees satisfies me of their superiority. They are unexcelled in gentleness, hardiness, and prolificness, as comb-builders and honey-gatherers. Write for circular and price list. Address **A. L. LINDLEY**, 5tdfb Mention Gleanings. Jordan, Indiana.

LIVINGSTON'S 1890 CATALOGUE

Our 1890 Catalogue is BETTER THAN EVER. A complete Garden Guide, full of practical ideas about all kinds of

SEEDS

Vegetables, Flowers, Bulbs, etc., necessary for the garden is mailed FREE to all who apply if they mention this paper. With prices lower, quality higher, better facilities for filling orders promptly, generous treatment and over 40 years Seed Farm experience enables us to please you. **A. W. LIVINGSTON'S SONS**, Box 278, COLUMBUS, O.

In responding to this advertisement mention GLEANINGS.

LOOK HERE!

Bee-Keepers and Fruit-Growers, before you order your supplies for 1890, send for my catalogue and price list of **Bee-Keepers' Supplies and Strawberry Plants**. Twenty-five approved varieties grown for this season's trade. Prices reasonable. **Bees and Queens** for sale; \$1.00 queens a specialty. Address **F. W. LAMM**, 24-23db (Box 106.) Somerville, Butler Co., Ohio.

In responding to this advertisement mention GLEANINGS.

Ho! Ye in Dixie Land!

LEARN SOMETHING NEW

Of Interest to You in my New 1890 Catalogue Enlarged, and prices reduced. It gives **LOW SPECIAL FREIGHT RATES** to many Southern points, especially to points in **TEXAS**.

Southern Bee-Keepers, Send for it NOW.

J. M. JENKINS, - Wetumpka, Ala.

In responding to this advertisement mention GLEANINGS.

HONEY COLUMN.

CITY MARKETS.

ALBANY.—Honey.—Stock continues to move off gradually; and from present indications we shall not be obliged to carry any over during the summer. In fact, there is a growing demand for honey the year round. We quote clover, 12@14; mixed, 10@12; buckwheat, 8@10; extracted, light, 7@8; dark, 6@7.
C. McCULLOCH & Co.,
Feb. 21. 339 Broadway, Albany, N. Y.

CHICAGO.—Honey.—Trade in honey is not active, yet is selling fairly well in a one to five case way. Few dealers are buying over 50 lbs. at any one time. Prices range from 12@13c for best white in pound sections, and off color or other conditions at 10@11. Dark, 8@10. Extracted, 6@8, according to quality. *Beeswax*, fair yellow, 25.
R. A. BURNETT,
Feb. 11. 161 So. Water St., Chicago, Ill.

COLUMBUS.—Honey.—Market is about the same as at last report. Strictly first-class white clover brings 14@15c. Dark and inferior grades meet with no sale. Extracted honey, dull. Trade in general is dull.
EARLE CLICKINGER,
Feb. 20. Columbus, Ohio.

CINCINNATI.—Honey.—There is a lively demand of late for extracted honey in glass jars, while demand from manufacturers is slow. Extracted honey brings 5@8c on arrival. Comb honey, 12@15 for best white, in the jobbing way. *Beeswax*, demand is good at 20@24 for good to choice yellow.
CHAS. F. MUTH & SON,
Feb. 14. Cincinnati, O.

ST. LOUIS.—Honey.—Choice white-clover honey in 1-lb. sections, small single-tier boxes, 12½@13. Broken, dark comb honey, 9@11; extracted, white clover, 6½@7, in cans. Southern and western extracted, in barrels and cans, 5½@6½, choice, and 4½@5 for dark. *Beeswax*, as runs 22; selected, 25.
W. B. WESTCOTT & Co.,
Feb. 11. St. Louis, Mo.

SAN FRANCISCO.—Honey.—Extracted honey, 6@6½; firmer, and more demand. Comb honey, 1-lb. sections, more demand—11@14; 2-lb. sections are neglected; 8@12. *Beeswax*, 18@23.
SCHACHT, LEMCKE & STEINER,
Feb. 14. 16 & 18 Drum St., San Francisco, Cal.

NEW YORK.—Honey.—Honey market is quiet and unchanged. *Beeswax*, scarce; demand very good. We pay 25 for good average quality, delivered in New York.
F. G. STROHMEYER & Co.,
Feb. 21. New York.

ST. LOUIS.—Honey.—Market very quiet. Prices unchanged. *Beeswax* scarce, and wanted at 23.
D. G. TUTT GROCER CO.,
Feb. 22. St. Louis, Mo.

BOSTON.—Honey.—We quote: Best 1-lb. comb honey, white, 15@16; best 2-lbs., 14@15; extracted, 8@9. Sales slow.
BLAKE & RIPLEY,
Feb. 24. 57 Chatham St., Boston, Mass.

DETROIT.—Honey.—Comb honey continues to be quoted at 11@13; supply moderate. Extracted, 7@8. *Beeswax* firm at 24@25.
M. H. HUNT,
Feb. 22. Bell Branch, Mich.

FOR SALE.—500 lbs. of nice comb honey in 1-lb. sections, 24-lb. cases, delivered free on board cars at Dixon, in good order, for 11½ cts. per lb. Also 500 lbs. nice extracted honey in 60-lb. square cans, at 8 cts.
EZRA BAER, Dixon, Ill.

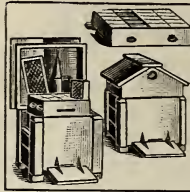
THE BEST THING OUT FOR GETTING BEES OUT OF SUPERS.

The Dibbern Bee-Escape.

Get a pattern, and be sure you have it just right. Now perfect. Tinned wire cloth, soldered on tin. Instantly removable. Sample cone by mail, 50c. Complete board, express, \$1.00.

5-7-9d C. H. DIBBERN, Milan, Ill.

In responding to this advertisement mention GLEANINGS.



HILTON'S Improved Chaff Hive AND T SUPER.

The pamphlet: "How I Produce Comb Honey." Price 5 cts. Send for free illustrated price list of everything needed in the apiary.

5-10db GEO. E. HILTON, Fremont, Mich.

In responding to this advertisement mention GLEANINGS.

BASSWOOD TREES.

Baswood-trees 1 to 3 feet high.....\$ 1 50 per 100.
" " 1 " " " " " 10 00 " 1000.
" " 3 " " " " " 2 50 " 100.
" " 3 " 5 " " " 20 00 " 1000.

5-6d Address HENRY WIRTH, Borodino, Onon. Co., N. Y.

In responding to this advertisement mention GLEANINGS.

QUEENS! EARLY! QUEENS!

Italian queens promptly shipped after March 15.
Tested queen.....\$2 00 | Untested\$1 00
Three Untested Queens.....\$2 75

Two-frame Nucleus with Untested Queens after April 1st, \$2 50. We use the Simp. frame, and guarantee safe arrival, etc. Circulars free. Make money orders payable at Clifton. Address 5tdfb COLWICK & COLWICK, Norse, Bosque Co., Texas.

In responding to this advertisement mention GLEANINGS.

LOOK HERE! 18 COLONIES of Italian and Hybrid bees in good condition, for only \$54.00. If you want a bargain write immediately to **FRANK HOWARD**, 5d Fairfield, Wayne Co., Ill.

TESTED CARNIOLAN QUEENS.

We have just purchased all the tested Carniolan queens that John Andrews, of the late firm of Andrews & Lockhart, has now wintering in their 100 colonies. These queens are to produce no bees showing any yellow bands, and are to be shipped in May. Any one in need of a nice breeding queen early in the season should correspond with us; and any interested in these bees should read description in our illustrated catalogue, sent free on application. Address

5-7d **THE BEE-KEEPERS' ADVANCE,** Mechanic Falls, Maine.

In responding to this advertisement mention GLEANINGS.

SEED POTATOES.

I offer the following choice varieties at the low price of \$2.00 per bbl. of 165 lbs.: Early Ohio; Chas. Downing; Sunlit Star; Crown Jewel; Thorburn; Early Rose. All choice stock, my own raising. Compare this price with your seed catalogue. Send cash with order. This will appear only once.

T. H. KLOER, 426 Willow Street, Terre Haute, Ind.

In responding to this advertisement mention GLEANINGS.

ITALIAN QUEENS

Is my specialty. For five years I have been perfecting a strain of bees as honey-gatherers, unexcelled. I think I have something better to offer than the general queen-market affords. I have one stock that, without increase, gave me \$24 cash from honey alone, in one season. If you are in need of queens, or wish to improve your stock, please let me supply you. I guarantee satisfaction. You may order now if you please, and pay when queens arrive. In May, Untested, each, \$1.00; six, \$4 50.

W. H. LAWS, LAVACA, SEBASTIAN CO., ARK.

In responding to this advertisement mention GLEANINGS.

CARNIOLAN QUEENS AND BEES,

Bred the coming season from Imported mothers, will be ready to send out the first of June. Send for free circular, to **JOHN ANDREWS**, Pattens Mills, Wash. Co., N. Y.

In responding to this advertisement mention GLEANINGS.



Vol. XVIII.

MAR. 1, 1890.

No. 5.

TERMS: \$1.00 PER ANNUM, IN ADVANCE; 2 Copies for \$1.50; 3 for \$2.75; 5 for \$4.00; 10 or more, 75 cts. each. Single number, 5 cts. Additions to clubs may be made at club rates. Above are all to be sent to ONE POSTOFFICE.

Established in 1873.

PUBLISHED SEMI-MONTHLY BY

A. I. ROOT, MEDINA, OHIO.

Clubs to different postoffices, NOT LESS than 90 cts. each. Sent postpaid, in the U. S. and Canadas. To all other countries of the Universal Postal Union, 18 cts. per year extra. To all countries not of the U. P. U., 42 cts. per year extra.

RAMBLER VISITS SHOREHAM.

PUTTING IN FOUNDATION.

A FEW days previously to arousing the Rambler's enthusiasm about raising honey on forks and spoons, Bro. Larrabee drove us around among the bee-keepers of Shoreham and adjoining towns. Shoreham is noted for its blooded horses and sheep; and where so much pride is taken in improving stock, the farm and the buildings are, as a necessary consequence, also improved. Many beautiful residences and commodious barns are found. So we find the Shoreham bee-keepers a progressive lot of men and women; for Shoreham has lady bee-keepers, as will be seen by further articles.



V. V. BLACKMER'S APIARY AND HONEY-HOUSE.

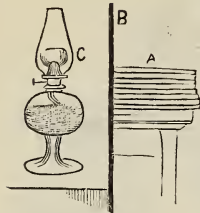
V. V. Blackmer lives in the adjoining town of Orwell. He owns a large and fertile farm; has sons and daughters; an apiary of 130 colonies, and the largest and finest honey-house the Rambler ever

saw. The honey-house (shown on the right) is 36x32 feet, and two stories in height. It is used for storing the tons of honey; grading, crating, etc.; also for putting together hives. Mr. B. purchases all material in the flat, and preparation for the season is made during the winter. Of course, he uses the Bristol hive and clamps, and raises comb honey exclusively. The hives are neatly arranged in a pear-orchard; and during the past season his success has been much better than his Shoreham neighbors', showing that localities vary, even when only a few miles apart. He markets his own honey by taking samples and going among the retail merchants and grocerymen in the eastern cities; and he claims that he saves the profit he would

have to give a commission house. We could plainly see that he could readily sell honey, for he is a portly, sedate, ministerial-looking man. We suppose it arises from his being deacon in the Congregational church. When he tells a man his honey is thus and so, the merchant believes it; and his belief is confirmed when the honey arrives, for only good honey is shipped.

We noted a peculiarity about Mr. Blackmer which we have noted about other bee-men, and with men in other pursuits. He had adopted, and for several years used, the Bristol hive and clamp. Having good success with it there was no evident desire to change or even try any other hive or system of management. In fact, as he told me, he did not want any thing better, and doesn't believe there is any thing better, and will keep right along raising comb honey in just that way as long as he lives.

Among the appliances in the honey-house was one quite novel, for putting foundation into sections. The foundation was cut a suitable size, and put in by heating the edges. It was put upon the little stand A, with an edge against the sheet metal B. A lamp, adjusted so as to keep the edges at just the right temperature, was placed in front. You see, the tem-



perature can be nicely controlled. Mr. B. thinks this the very best way to put in foundation, and will stick to it, probably, as tight as the whole State of Vermont does to the Republican party. After a pleasant visit and dinner, genial John and the Rambler went on their way, both profited by their visit.

RAMBLER.

PASTURAGE AND OVERSTOCKING.

READ AT THE WISCONSIN STATE BEE-KEEPERS' ASSOCIATION, FEBRUARY 5, 1890.

I HAVE been booked to say something on this subject. That it is a subject of very great importance, all will admit—not so much to the keeper of a few colonies who may keep them for recreation or experiment, or to the farmer who may keep a few as he does hens, as one of many items to swell the gross receipts. To such it is not of vital importance that they fully understand, or stock to its full capacity the location they occupy, as they make but a small effort, and are at but little expense. They can stoically take what they get; and, not being dependent on their bees for a living, they can accept the results with composure.

To the specialist it is different. If he embarks in apian pursuits exclusively, it stands him in hand to be well posted in all that relates to his field of operations. He can not afford to make mistakes, nor can he afford to share with others the field he occupies. He should have, if possible, an undivided field, with no bee-keeping neighbor nearer than five miles. If he expects to have out-apiaries he should have room to spread his yards from four to six miles apart. If already living in and owning such a place he is so far fortunate; if not, and bee-keeping is to be his specialty, it will pay him to move even hundreds of miles, if necessary, to find a place adapted to his wants. It will not pay to throw away good talents on a poor location. But some will say, "This involves too much. If I have to move to go into the bee-business, I will give it up."

This is the point exactly. Few will take the trouble. The result is, there are but few specialists who make a big thing of the business. The larger part of the would-be bee-keepers, rather than take the necessary trouble to provide themselves with an unoccupied field, prefer to start in a field already partially or wholly stocked, with some kind of a vague notion in their minds that the bee-business is an affair of luck any way. They do not seem to grasp the fact that bee-forage is limited in all places, and that, if the limit is passed, the profits will cease to all concerned.

HOW MANY COLONIES IN ONE PLACE.

Here is where doctors disagree. Mr. Heddon, a great light in apiculture, has declared that he has

never found a man capable of shedding one ray of light on the subject. This is a sweeping assertion, and not very flattering to those who have written on the subject. I can not quite agree with Mr. Heddon, for I think I have received a few rays and a few pointers that are useful to me at least.

To illustrate, I will give a little of my experience. For ten years I have had an out-apiary five miles south, called the Sextonville apiary. I have kept from 125 to 200 colonies there, spring count, and for most of the time I have had an undivided field. It has been a good location for early pollen, clover, and basswood. As high as 200 colonies would seem to get plenty of early pollen, and do fairly well on basswood and clover; but for fall flowers 200 was far too many. A less number in as good location made a far better average.

For a few years past, other bee-yards have been started in the vicinity of this yard, making the number on the range about 300. The falling-off in the amount per colony has been very apparent. Last year our receipts of basswood from the 200 colonies was 13,000 lbs. with 300 colonies in the field—an average of 66 pounds to the colony. We moved from the home yard, 100 colonies to basswood timber. They gathered, in 17 days, 11,000 lbs., an average of 110 lbs. each, or 45 lbs. per colony in favor of a location not overstocked. This is satisfactory evidence to me that the Sextonville location was overstocked, and that the last 100 colonies added to the range lessened the average yield from 100 lbs. per colony to 65 lbs. This also shows the importance of understanding the resources of our location; for if a man can run 100 colonies with an average annual yield of 100 pounds per colony, and on adding 50 colonies more he finds his annual yield per colony 70 pounds, he will get only 500 pounds of honey for the capital invested, and care of the 50 colonies, which would be very poor pay for the outlay.

WHAT OUR BEE-MEN ARE DOING.

It seems to be the aim of several of our most successful bee-keepers to keep from 75 to 125 colonies in a place. That locations vary greatly, all are aware. Some locations are as capable of sustaining 200 colonies as others would be 50. We will describe what we consider to be a good location for this country.

1. Near a creek or river bottom, where plenty of alder, willow, and soft maple grow to afford early pollen, and near a good deal of pasture land containing much white clover, and near a large body of basswood timber; and if asters and other fall flowers grow thick in the bottoms, and wild raspberry on the hills, so much the better. If you have this kind of place, or can get it, stick to it as long as you can, for it will be a good place for bees. There are some such places in Wisconsin and Minnesota, but they are becoming rare. Where is the honey of the future coming from? White clover seems to promise the best of any one thing. It has many points in its favor. 1. The honey is of fine quality, and esteemed by a larger class than any other kind of honey. 2. It grows over a larger area of the United States than any other yielding plant, shrub, or tree. 3. Its area is still on the increase, and likely to be for years to come. Basswood is a grand tree, and yields a fine honey, not equaled, to my taste, by any thing in the way of honey, from honey-dew to white sage. The sight of a large basswood forest in bloom, with the bees working on it, is reviving to the eyes of a bee-keeper; but, alas!

the glory of our basswood forests is fast disappearing; and unless immediate steps are taken to preserve some that we have, and plant more, basswood honey will soon be at a premium.

The white sage of California has been long and favorably known as a honey-plant of rare virtue, giving some of the lightest-colored honey in the world; but, like our basswood, its area is getting to be limited. It is fast disappearing before the cattle, sheep, and plow. Alfalfa is coming to the front as a honey-plant. Some enormous yields are reported from it. As it grows where people are obliged to irrigate, the bees are sure of good weather in which to gather the harvest.

In the foregoing I have mentioned only some of the most prominent honey-producing plants and trees. Time and space forbid a more extended list.
Ithaca, Wis. S. I. FREEBORN.

CAN WE DISPENSE WITH HONEY-BOARDS?

V TOP-BARS; MELILOT, ETC.

I WAS very anxious to get light as to deep top-bars vs. brace-combs, and am getting it from many. For the same I am thankful. I think I have light enough to feel my way carefully, and I am not without hope that I may be one of the fortunate who can prevent brace-combs between top-bars. I am a little surprised at Bro. Heddon expressing such positive knowledge (I refer more particularly to his statements at the Chicago convention) that the slat honey-board can not be dispensed with. Either one of two things may render it advisable to lay aside the honey-board. The first is, that it should lose its efficiency. For a time it was entirely successful with me; but if it should continue to deteriorate as it has done, it will be worse than useless. It is at least possible that in time it may fail with others. Bro. Heddon's last article reveals the fact that he uses top-bars $\frac{1}{2}$ inch deep. May that not account for his succeeding better than I, whose top-bars are only $\frac{3}{8}$ deep? And if the top-bars make a difference, may they not possibly make so much difference that no honey-board shall be needed?

That is, in the second place, it may be advisable to lay aside the honey-board, if top-bars can be so made and used as to prevent brace-combs above them. A single case in which this has been done—and there have been several—overbalances a hundred assertions that it can not be done. Even if top-bars can be made to do nearly as well as honey-boards, top-bars alone are best, because of the time and the daubiness every time a brood-chamber is opened, and because the brace-combs between the top-bars and the honey-board probably involve a loss of dollars in honey.

Now as to the practical question, Shall I throw honey-boards aside? Not yet, nor hastily. It would be no light matter to change all my top-bars; and although others may succeed, before I make any great change I must see whether I can be successful with a few hives. I recommend others to go slow.

V TOP-BARS.

There was a time when V-shaped top-bars had the advantage, that bees built straighter combs on them; but now that foundation is used in brood-frames, is there any advantage in having the lower edge of the top-bar beveled? It is said, that a top-bar $\frac{3}{8}$ deep, beveled so that it is $\frac{1}{2}$ thick at the

edges, will not sag as a flat $\frac{1}{2}$ piece will. I have had no serious trouble with flat $\frac{3}{8}$ top-bars sagging; still, the V projection would be stiffer. But this V makes more wood; and would it not be better to have this additional wood in flat shape? A flat top-bar, $\frac{3}{8}$ thick, would contain just as much wood as the beveled $\frac{3}{8}$ bar spoken of above; and while it might not be quite as stiff it is not likely that any one would complain of a $\frac{3}{8}$ bar sagging. The V bar has, for a half-inch of its depth, cells ranging from nothing to full depth; while the flat bar allows brood to be raised in all its cells, giving more room for comb, for it must be remembered that the upper part of the bevel can not be utilized; for bees will not make such very shallow cells.

WILL MELILOT MAKE HAY?

Friend Root, are you not a little hasty in your judgment of melilot, on page 56? You say, "I do not believe that sweet clover is worth very much for pasture or for hay, in the Northern States. The matter was pretty thoroughly discussed through our columns some years ago. While cattle eat it at a certain stage of growth, to some extent, this stage goes by so soon that it has been generally voted not worth the trouble, as feed for stock." I know the matter was *discussed*, but has it ever had a fair *trial*? Has any one ever made a ton of melilot hay, and reported? or a hundred pounds? Has any one reported a case where melilot grew in a pasture to which cattle had constant access without touching it? I think it is very uncommon to find sweet clover growing in pastures. I do not know of any such case, although I know of plenty growing elsewhere. Between my home and the Wilson apiary sweet clover grows plentifully, and always stands untouched except for a distance of half a mile. Through that half-mile, Stewart's cows are driven to pasture every morning, and home again at night. The sides of the road are covered with grass, and some sweet clover has grown there for years, but it does not grow as high as red clover, being *always*, at all times of the summer, eaten down by the cows. True, it blossoms and seeds, but in a very lowly way, while just this side the pasture-gate it grows six or eight feet high. Does that not dispose of your "certain stage of growth," friend Root? And is it not possible that those same cows—and they are well-kept cows—would eat more of it if it were in their pasture? It is common to find grasses that grow well in the South, and succeed poorly in the North; but where they grow also in the North, are they not as valuable as in the South? In Mississippi, Prof. Tracy says, "As a hay-plant it is certainly one of our best." One day I offered my horse, just as he was brought out of a good pasture, some dried stalks of sweet clover that had been cut, I think, just before blossoming, and, to my surprise, he ate down leaves, stalks, and all. I have read that, for a long time, anthracite coal was worthless because no one knew how to burn it. Possibly we may yet learn to make melilot valuable for pasture and hay.

C. C. MILLER.

Marengo, Ill., Jan. 27.

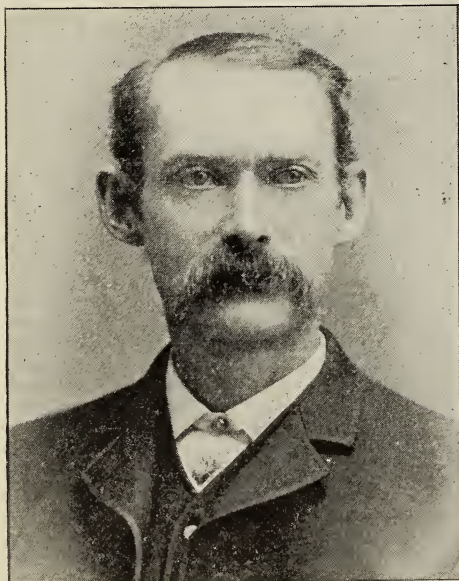
Friend M., some writer for GLEANINGS, a good many years ago, said sweet clover had been raised by the acre, and cured for hay, but that the plan was finally abandoned as unprofitable. As I have forgotten the name of the writer, I can not well turn to the article. I think he stated that it was introduced as a new forage plant, and raised

for a time on quite an extensive scale. Perhaps some of our readers can hunt up the communication, or give us facts in regard to hay by the ton, made from sweet clover, aside from the statement of Prof. Tracy.

BIOGRAPHICAL.

JAMES HEDDON AS A BEE-KEEPER, EDITOR, INVENTOR, AND POLITICIAN.

In revising the A B C of Bee Culture we found a number of wood engravings in the biographical department, more or less imperfect, and we decided that we would have all or nearly all of the subjects portrayed by the beautiful half-tone process, which, as our readers know by this time, is true to nature with all its beauties and imperfections. A blemish on the features, or wrinkles which sometimes seem to creep on the face rather sooner than they ought, are portrayed with all the accuracy that sunlight and shade can give. The wood engraving of our friend and correspondent, Mr. James Heddon, was a fairly good one; but the latter gentleman—or at least his family—did not consider it natural. We accordingly asked him to sit for another picture, which he has done. The result we append below:



JAMES HEDDON.

It is unnecessary here to give a biographical sketch of our Dowagiac friend, as one has already been published in these columns (see page 440, 1886), and an abbreviated sketch has stood through the last edition of our A B C book; but while I am about it, I take pleasure in saying that Mr. H. is not only a prominent and successful bee-keeper, but a man who occupies a prominent position in his own city. He says he has always

entertained somewhat of a detestation for "politics." He has twice refused the nomination for representative of his county, in his State legislature, and once the nomination for senator from two counties, and several times that of alderman in his own city. In 1867 he ran for the office of mayor, without the least possible show of election, as he viewed it, and that, too, against a personal friend, who was well liked by his fellow-citizens. Mr. Heddon was elected. In March, 1887, he assumed the editorship of the *Dowagiac Times*, which paper he has conducted ever since successfully. Although a Democrat, he believes in the principle of a protective tariff; but he does not think that any line of manufactures needs it for any great length of time.

The article which we print in this present issue—see page 165—is quite characteristic of friend Heddon as a writer. He has a happy vein of telling what he has to say, and he also has an unusual faculty of making every thing exceedingly plain and easy to be understood.

Mr. Heddon is more conspicuous in the bee-world as having invented a number of bee-keeping appliances. He is the inventor of the divisible brood-chamber. Whether Mr. Heddon was the first one to conceive all its principles, I will not say. A number of its features are old, but they have been combined, as he claims, into a new invention. One of friend H.'s peculiarities is that he is quite jealous of his inventions, and is very particular that no one else shall even hint that he (Mr. H.) does not enjoy the exclusive priority. It were better sometimes, if he would exercise a little more charity. I do not believe bee-keepers are disposed to rob him of proper credit. Prominent among his inventions is what is known as the slat honey-board, which is now largely in use. He has also made some important improvements in shipping-crates. E. R.

RHEUMATISM, AND THE CAUSE OF ALL SUCH KINDRED DISEASES.

BEE-STINGS OF DOUBTFUL BENEFIT, AS CONSIDERED BY PROF. WEBSTER.

I HAVE been noting the various articles on the bee-sting as a remedy for rheumatism. The thought has occurred to me that a few words on the cause and nature of the disease in question might assist in arriving at a correct conclusion, and defining the value of the aforesaid remedy. The disease of which we write presents itself in several forms; viz., inflammatory, sciatic, articular, lumbago in the back, and gout; yet the cause is always the same—the presence of effete matter in the system, either uric acid or uric acid plus the soda of the system—urate of soda. The use of rich stimulating food, or excessive quantities of plainer foods, has so burdened the excretory organs that they are unable to do the work; and the next move in the economy of nature is to deposit this foreign matter where it will least affect the vital organs. Hence the muscles and joints become inflamed and diseased by these deposits, which must be expelled before any permanent cure may be expected, not only to get the acids out, but to prevent the formation of more.

This condition is brought about by the use of improper and excessive quantities of food, as we have said; consequently these poisons are formed from the partially digested food. Now, to us the idea of putting a specific poison into the system to expel or neutralize another, seems simply a matter of experiment, and very uncertain in its results. I am much of the same opinion as yourself, Mr. Editor, that any poison, whether taken out of a bottle or the business end of a bee, is attended with only doubtful results, and would best be avoided as far as possible. Medical science is progressive at present. We see that those who combat disease most successfully use but little medicine, but, rather, employ means which assist nature in throwing off this effete matter, and, by a restricted diet, prevent its formation.

Rheumatism which has not yet proceeded to the stage of hardening the deposits about the joints, is curable; but after the joints become enlarged and deformed, there is no process known by which it may be removed. We see that a plain diet, consisting largely of vegetables and grain, is best. The various combinations of baths, fomentations, electricity, and galvanism, used in connection with massage-oil baths, and the various movements, are eminently successful in the cure of all diseases where there is sufficient recuperative power to respond. Of recuperative power, says an eminent writer:

"The resistance, active and passive, of the physical system, to destructive agents, is wonderful. Huge wounds heal, leaving scars only. This is true of external and internal organs, including even the brain. A large part of a bone may be taken out, and the bone grow again; deadly poisons swallowed, and the various eliminating organs will throw them off, and destroy their power, often succeeding fully. Millions of people transgress every law of nature, and still live out half their days because of the unceasing struggle of the law of recuperation to undo the mischief."

Do we realize that this law of which the writer speaks is a law of God, and that we are accountable to him for every transgression? Ignorance is no excuse before the law in this case, and the penalty swiftly follows; viz., sickness. Hygiene should be diligently studied by all who profess to be the people of God. It was intended by our heavenly Father that all should lead happy, healthful lives, and in his word he has given instructions. When Moses led out the children of Israel he was given the most perfect code of laws for the healing of all the diseases of his people, and God especially promised to bless all with health who followed his instructions. All who read GLEANINGS should study the laws of health. By so doing you will see what is the cause of so much ill health. The poison of the sting may be a means of relief in some of the early stages of rheumatism; but if the cause of the effect continue, how can any permanent relief be looked for?

W. A. WEBSTER.

Crystal Springs, Cal., Jan. 23.

No doubt you are correct, Prof. W.; but will you excuse me if I ask if the medical gentlemen agree to what you have told us? As I went over your article, my mind went back to many points in my own experience, and that of others, strongly corroborating what you say, and not only in regard to rheumatism, but many other diseases. It

may be true, that people sometimes are suffering because they eat too little; but I am inclined to think that the cases are almost a thousand to one where the trouble comes from eating too much, because it depends largely upon the amount and kind of work one is doing, as to how much food he should take. Notwithstanding this, it is very hard to explain how relief could have come so promptly and perfectly unless the sting of a bee has some wonderful effect upon the pain in rheumatism. Has not God in his wisdom provided antidotes and remedies, even after we have transgressed his laws?

WIDE AND THICK TOP-BARS.

STAPLES FOR SPACERS.

ABOUT the time the Simplicity hive was introduced, the idea was advanced that top-bars of brood-frames should be as light as possible, that brood and super apartments might have the least intervening space, thereby causing the bees to more readily enter and fill the supers. This theory has some plausibility so far as inducing bees to enter and begin work in the supers; but if delayed from working above a day or two longer on account of extra intervening space between, the work goes on more rapidly after it has begun; and it is not necessary to explain to the practical bee-keeper why this is so.

When I began to use the Simplicity hive, the top-bars of my frames were cut out very thin. Soon after being filled, their appearance reminded me of an old sway-backed horse. At that time, wide frames were used to hold the sections; and as these were being filled, the spaces between were evened up also, with strips of comb honey. This trouble was exasperating, haunting me even in my dreams. Becoming desperate I determined to tear off every top-bar I had and replace with others sufficiently heavy to hold up under a reasonable weight. This work I did in April during warm days, and with no particular annoyance to the bees. At that time I was using hives 15 inches wide, with 10 frames in the space, which was permitting too much space between frames. This was reduced by using a division-board at one side. With this new order of things, and only a $\frac{1}{4}$ bee-space between brood-frames and sections, little trouble from connecting combs was experienced.

Soon after this, more by accident than otherwise, I learned another fact which helped to convince me that width of brood-frames is important in preventing burr-combs between apartments. A gentleman who was about to move away from the farm he had sold, came to me to see if I would buy his bees, offering them at a low price. I did so without seeing them. They were in double-walled L. hives; and when I brought them home and took off the honey-boards I found that the top-bars of the frames were so wide as to make it a tight squeeze for bees to get between them; but as the honey season was about at hand, I did not then stop to cut them down, but at once placed $\frac{1}{4}$ -inch-square sticks across the ends, and put a case of sections on each hive. In a few days bees were at work, rapidly filling up. As soon as pretty well filled with comb they were raised, and another case placed beneath. After all were finished I was surprised to

find absolutely no connecting combs above the brood-frames; and why? "No place to put them." Next. Now, I had better say, further, that these top-bars appeared to have been made from common lath planed down to what the builder of these hives thought to be about the thing, and were but little if any more than $\frac{1}{4}$ inch thick; but on the under side of these wide bars were triangular comb-guides, fully $\frac{3}{4}$ of an inch thick. Whether these heavy comb-guides had any thing to do with the prevention of burr-combs, I am not able to decide positively; but I place more stress on the close spacing, and some on extra width of top-bars.

I would have continued experimenting on this problem; but some years ago I went out of the production of comb honey, as I found I could produce in my locality twice as much extracted, which is always sold at 15 cents per pound, making honey-raising in this way doubly profitable to me.

FRAMES HELD AT FIXED DISTANCES.

The use of staples in the manner illustrated and explained by Mr. Phelps, for the purpose of holding frames at fixed distances, is ingenious, simple, and inexpensive. I can not think that the use of frames at fixed distances will ever become general; and whenever any one begins to talk of a system for holding frames at fixed distances I begin to get uneasy. I suppose this feeling was engendered by the use, many years ago, of the close-fitting top-bars of the American hive, and from the temper-trying experience of extracting honey from some hives with their frames arranged at fixed distances by the use of staples and nails. I want a sharp knife for uncapping; and to see a staple or nail about a frame when I am slashing hurriedly a razor-sharp knife, starts my blood to crawling.

I have a good deal of hauling to do every year, moving bees from one point to another; and when the frames look as though they might not stay in place, I fix them down by putting stout pieces of frame-stuff across each end of the frames, just over the rabbets; and by the use of two or three pretty good screws driven into the rabbets these pieces of wood can be pulled down tight enough to keep the frames in place. If thought necessary, staples might be put into these strips to keep the frames in place in moving bees; but, keep the staples out of the frames.

The end-boards of the upper stories of my hives are rabbeted on both [top and bottom] inside edges, which arrangement permits the placing-in of the strip above alluded to, as well as permitting the enamel cloth or quilts to go out over the ends of the frames.

J. A. BUCHANAN.

Holliday's Cove, W. Va., Feb. 3.

You have made some good points, friend B., on the matter of the prevention of brace-combs; and it is interesting to know that you have had experience these years in the same line. A multitude of testimonies coming now, establish the fact almost beyond doubt that burr-combs can be dispensed with without a honey-board. With the latter we shall have them between the top-bars and the slats of the board. With wide top-bars there are absolutely no burrs, providing the frames are spaced $\frac{1}{8}$ inch apart, so that it is not only possible to dispense with a honey-board, but we have a great many less burr-combs.—The point you make in regard to staples interfering with the honey-knife for uncapping is well taken,

and that alone would almost forbid its use among those producing extracted honey. But we can, friend B., drive these staples into the rabbets, and space the frames apart that way, and yet do away with all hitching and interference with the honey-knife. If we have the top of the frames so that they can not shuck about, we shall not have very much trouble, ordinarily, from the bottoms knocking together. What we want is a staple $\frac{1}{4}$ inch wide, driven into the rabbets at such distances as will space the frames just $\frac{5}{16}$ inch apart. A quarter of an inch would be better than staples $\frac{5}{16}$, because we need a little play on account of propolis accumulations. With this close spacing we need accurate spacing; and the staple will not only keep the frames fixed, but accurately spaced. Ordinary blind staples, which can be had at almost any of the hardware stores, will answer.

E. R.

In addition to the above, I would say that, come to think of it, it was these blind-staples in the way of the honey-knife that was largely instrumental in inducing myself and others, nearly twenty years ago, to pull them out and throw them away. And, by the way, will not the Van Deusen metal corner be open to the same objection? Will friends Hawk and Hetherington tell us about this?

TOP-BARS OF BROOD-FRAMES.

FRIEND DIBERN'S EXPERIENCE.

I HAVE been very much interested in the discussion of the wide thick top-bars for brood-frames. If the question is not yet ruled out, I wish to add my mite of information on this interesting subject.

Some years ago I came to the conclusion that I must have a new hive, and somehow none of the standard hives suited me as a whole; so I went to work and planned a hive after my own ideas. I used tops and bottoms of my brood-frames $1 \times \frac{1}{2}$ inch, and they have given very good satisfaction. I adopted this size more on account of strength, to prevent sagging, than as a preventive of burr-comb. As my frames are $1\frac{1}{2}$ from center to center, there is just $\frac{3}{8}$ inch between combs. After reading the Jan. 15th GLEANINGS I had about concluded I would order the next lot of hives with $1\frac{1}{4}$ wide $\times \frac{3}{4}$ thick top-bars: but after examining some five or six hives that have had bees in for the past two and three years, and finding almost no burr-comb at all, I decided to leave the width at one inch, but make the bars $\frac{3}{4}$ inch thick. Still, after examining the combs critically, and noting that the comb, where sealed up with honey, projects about $\frac{1}{16}$ beyond the wood on either side, I have decided to make a part of my hives for next season with $1\frac{1}{4}$ -inch top-bars, with $\frac{3}{4}$ inch between combs. I shall then be able to reach an intelligent conclusion on this point.

While a great deal has been written about the tops of frames, bee-spaces, and honey-boards, I am surprised that something has not been said about the bottom-bars. Are they "all right," and entirely unobjectionable? How about the space under the bottom-bars? and what about the width of the side bars? Some of my old L. hives have given me as much trouble from burr-comb at the side and bottom as at the top. I am aware that most of the trouble comes from faulty construction. But,

what is correct, to obviate all this difficulty? I am not troubled in this respect in my new hive, but I know that many of the standard hives are not perfect in these points. Now, while we are about it, let us overhaul the whole hive. What say the readers of GLEANINGS?

C. H. DIBBERN.

Milan, Ill., Feb. 3.

Your testimony, friend Dibbern, is another drop in the bucket that establishes the value of wider and thick top-bars. On account of the difficulty of getting lumber of odd thicknesses we decided to make top-bars $\frac{1}{2}$ inch thick, as a good many seemed to prefer them so, but more particularly because $\frac{3}{4}$ lumber, after being rabbeted out, can be ripped up into bars one inch, $1\frac{1}{8}$, or $1\frac{1}{2}$. In regard to the bottom-bars and end-bars, we decided to use only $\frac{3}{4}$ lumber, particularly on account of cheapness. Were we to make them of the same width as the top-bar, we should have to charge considerably more per hundred for the frames. There may be some advantage in having wide end-bars; but we hardly think it is enough for the extra expense. However, we shall be glad to hear from our readers on this point.

E. R.

DEEP TOP-BARS.

JAMES HEDDON ARGUES IN FAVOR OF HONEY-BOARDS YET.

FRIEND ROOT:—With pleasure I have been reading February 1st GLEANINGS. I see that our friends feel more and more positive that the deep top-bars are going, once and for all, to settle the brace-comb trouble. I have to laugh at their enthusiasm over this new thing, as it seems to be to most of them, although it is so old a one to me. You will find that the depth of the top-bars has very much more to do with discouraging brace-combs than does the width of it. If I were bound to space my top-bars just $\frac{1}{8}$ apart, I would use them only $\frac{3}{4}$ wide, and then put more combs into a hive. Don't you see, that, the more space you give a comb, the more apt the bees are to store honey just below the top-bar? Of course, you know that, where the top cells of the comb are used for honey instead of brood, brace-combs are much more apt to be built in between the top-bars and between their top surface and the receptacle or cover above.

Let me tell you how you can arrange top-bars to prevent brace-combs with almost as much certainty as the break-joint honey-board will do; but you will not do it, because there are serious objections which you will see at a glance.

Make your top-bars $\frac{3}{4}$ or $\frac{5}{8}$ of an inch deep before the bevel begins, if you use a bevel. Place them just $\frac{1}{8}$ apart, but do not have the top-bars more than $\frac{3}{4}$ wide. This will give you closer spacing of your combs from center to center, and that alone will help you materially. Now make section boxes just as wide as the distance of your top-bars from center to center, so there will be just as many openings between the sections as there are between the top-bars in the hive. Now make these openings exactly break-joints with the openings between the brood frames, the same as the honey-board does, and you will have but few more brace-combs than you would have above the honey-board. But don't you know, friend Root, that no one

wants to use such narrow sections? and that settles that; but, at the same time, it is a fact that that arrangement, and that only, will come very near to the delightful condition of affairs regarding brace-combs which is so anxiously hoped for without the use of the honey-board, by your enthusiastic correspondents in last issue.

Let me now tell you what I believe I know is the best method, and I have a number of hives arranged accordingly, which I have had in use for years. Use a top-bar $\frac{3}{4}$ or $\frac{5}{8}$ deep. Do not space them more than $1\frac{1}{8}$ apart from center to center, and $1\frac{1}{4}$ will do very well. Use the break-joint bee-space honey-board above them, and any kind of sections you prefer above that. Let your bee-space in the honey-board and in the top of the hive below the honey-board be $\frac{3}{8}$ scant, or $\frac{1}{8}$. Then you are safe against brace-combs above the honey-board. You will have much less below the honey-board; you will have a solid top-bar that will not sag; one in which bees will build nicer, straighter combs, when they are not compelled to build them so by the use of wires and full sheets of foundation.

Please mark this article with a blue pencil, and put a book-mark in your file; and by and by, when the excitement of deep top-bars is all over and settled, take a vote and look back and see if what I here state is not just what will then be the prevailing sentiment. I think my locality is much like others, and my bees have much the same instincts. I have experimented years and years upon this point—yes, upon every part of it, that I find mentioned in GLEANINGS. Honey-boards are a blessing which came to us long ago, and came to stay, multiply, and cover the earth.

We have all had "la grippe" here, but no deaths in our little city of 3500. The open winter is especially mild, and free from snow, in this locality. Bees are in perfect condition out of doors, and I am lucky enough to have over four-fifths of mine out. My 70 colonies in the cellar are apparently in very good condition, but I know they are not as strong as those outdoors. My son Will, who wrote you the article on paper packages for extracted honey some months ago, I suppose we shall lose from our family of bee-friends, as he is studying electrical science, and takes charge of our electric-light plant which is just now being completed in this city.

Dowagiac, Mich., Feb. 10, 1890. JAMES HEDDON.

You say you had to laugh at the enthusiasm of the advocates of thick top-bars, because the subject is such an old one to you. Please don't laugh just yet, Bro. H.—at least not right away. In the progress of the times, good things like the honey-board, that have served their purpose well, are sometimes discarded for something better. It is really astonishing that so many have tried these heavy bars for so many years, and liked them, and these same people say, too, they never had any brace-combs, and, of course, have no need of a honey-board. So many testimonies are coming in to this effect that it will be impossible for us to publish them all, however valuable they may be; but the few that we do give place to are a pretty fair sample of what we receive. Heavy bars are not a new thing; they are only being brought to public notice. Yes, the closer the spacing the less burr-comb there will be. But that will not

do it alone.—As you have brought up the matter of the break-joint feature in your honey-board, allow me to say (with no desire to provoke discussion) that I never could see that it made a bit of difference whether the slats were break-joint or directly over the top-bars. Perhaps my experience has been limited. But Dr. Miller (and he is a very candid man) says he can not discover that there is any value in the break-joint. A very prominent bee-keeper of your State, with whom I had the pleasure of a couple of hours' conversation in regard to bees and bee-keeping, while we were on the subject of honey-boards told me that he had tried them with the slats both on the break-joint and continuous-passageway idea, but he was unable to detect any difference. I should be glad to give you his name, but perhaps he would object to my luging him into print in this way, as he is a very good friend of yours. Dr. Tinker, in the *Apiculturist* (p. 18), goes even so far as to say that there are *more* burr-combs from the break-joint than there was from the direct-passageway plan. Now, we will admit that your honey-board has been a *good thing*—a blessing, etc.; but it does not go more than half far enough. With thick and wider top-bars we can do away with burr-combs *altogether*, if scores of good witnesses are reliable; but with the honey-board, one of the bee-spaces is *entirely* filled. While it is *possible* that the deep top-bar has stirred up an undue excitement, yet there is so much in it, evidently, that bee-keepers north and south are mightily pleased with it—yes, those who have tried them for *several* years. Your prediction, that your honey-board has “come to stay, multiply, and cover the earth,” *may* come true; but I must confess that I consider this a rather confident assertion for the future.

E. R.

BABY BEES IN WINTER.

H. R. BOARDMAN EXAMINES HIS BEES.

YESTERDAY was a pleasant day. The sun shone out clear and strong, and the mercury stood at 56° in the shade. I worked among the bees, opening hives and taking out combs for examination, with as much comfort as I should in June. Such a treat is really refreshing to me, whether the bees enjoy it or not. I had set several colonies out of the bee-house for examination, which I frequently do to determine just what is going on; also a few were left out on the summer stands so I might be able to compare results of the two ways of wintering.

I examined eleven colonies—seven taken from the bee-house, and four that had been left out on the summer stands. Ten of the number had more or less brood. The queens were laying freely. In several colonies, young bees were emerging from the cells, and quite a sprinkling of young baby bees could be seen moving timidly about in the crowd. I have never seen the like before at this time of year. I have often found brood in a hive occasionally, as early as January, but not so general and in such abundance. I presume we may take this as an indication of the general condition of the bees all over the country—at least, so far as the mild weather has prevailed.

Those who insist that early breeding is followed by unfavorable results in wintering, please stand up and tell us what we may expect from this unusual condition. For myself, I feel no alarm about it, if *only* there are sufficient stores, as, of course, an extra amount of stores will be consumed.

H. R. BOARDMAN.

East Townsend, O., Feb. 1, 1889.

Friend B., why don't you tell us which wintered best of those you examined—those indoors or out? and how about the comparative consumption of stores during this exceedingly mild winter?

REVERSIBLE EXTRACTORS.

ANOTHER GOOD TESTIMONIAL FOR THE STANLEY.

I SEE there is quite a little talk just now about extractors; and as the Stanley comes in for its share, both pro and con, I thought I would give my experience. I bought a four-frame Stanley in the spring of 1887, purely on the recommendation of Prof. A. J. Cook; and I will say right here, I have never regretted so doing. It is not a geared machine, consequently it turns easily. In the month of July my 16-year-old sister will extract all the honey we can get to her. But when I do my fall extracting—that is, from my surplus combs, usually about the first of September, then it requires a man to operate it, because the weather is cooler, and therefore it needs harder turning.

The season of 1889 was the first honey season we have had since I bought the machine. My crop this year was a little over 10,000 lbs. I have *never* had a comb broken in the Stanley, nor do they become imbedded in the wire baskets so as to tear out when being lifted up.

Friend Osborn speaks of the baskets on his becoming tangled when reversing. I can work mine all day and never have them tangle once. When I first got mine, before I learned how to operate it, I made mine tangle, and I was quite vexed; so I went and got Stanley's letter and read it over again. He said, “When you want to reverse, slow down gradually. Stop. Let the baskets swing past the center-shaft, *then reverse*. Do it in a somewhat slow and lazy manner.” Every person who has ever taken hold of my Stanley to work it has always been in too great haste to reverse, and, as a result, some baskets are jerked off from their hooks, or they become tangled. I think some one mentioned that it was unhandy about putting in and taking combs out. I experience no difficulty in this respect. Perhaps it is owing to the frame I use. I use the Gallup. The operator picks up a comb by the center of the top-bar, with his right hand, and with his left swings the comb-basket to the outside of the extractor, then lowers the comb in.

It is possible that the Stanley is not the best extractor on the market, yet I have seen the U. S. and the Novice, and several home-made machines, but I have not seen any that I would be willing to trade my Stanley for yet.

CARRYING BEES OUT OF THE CELLAR.

I see quite a good many of the brethren who practice cellar wintering advise putting the bees into the cellar without any bottom-board to the hives. I should like to have them tell me how they manage in the spring to keep the bees from getting in an uproar when being placed on their sum-

mer stands. Do they hibernate so perfectly, and are handled so quietly, that they are not disturbed until the warm rays of old Sol arouse them to their surroundings?

H. L. ROUSE.

Republic, Ia., Feb. 10.

We are glad of the facts you furnish in regard to the Stanley extractor. You do not say, however, whether you have *used* to any extent the Novice or any other extractor. We do not anticipate there would be any trouble carrying hives without bottoms out of the cellar. However, we should like to hear from H. R. Boardman on this point.

A HISTORY OF THE ITALIAN MONARCHY.

CONTRIBUTED TO AND READ BY THE PENN COLLEGE ORATORICAL ASSOCIATION AT OSKA-LOOSA, IOWA.

ONE day, as I wandered among the people on my father's plantation, I observed a very busy group of Italians. Noticing the peculiarity of the workers, I became inquisitive and greatly interested, and I have compiled this summary of their habits, life, and government.

These busy workers have a queen to rule over them, to whom they yield implicit loyalty. Among these people the females perform all the productive labor, while the others lounge around on the avenues and take it easy. These ladies are armed with deadly weapons; and should the work slacken, and famine threaten the community, they will use these weapons and destroy all the non-productive members of the community, old and young. Just let these so-called "lords of creation" trespass where they are not wanted, and they will speedily find these irritable ladies after them, and a quick retreat is their only safety.

No strangers are permitted to cross the border of their domain without a formal introduction, and without being closely watched; for they will be quickly arrested, and perhaps killed, or left in a dying condition. Whole armies are put to flight, and the greatest warriors flee from their attack. Take heed to your standing, ye reputed heads of creation, lest the ladies trample your laurels under foot, and bring you wholly under their rule.

The palace occupied by this empress queen is a very ingenious structure, having but one entrance. The apartments are numerous, and constructed with mathematical precision and skill—finished off with admirable taste and beauty, decorated in hues of amber and gold. Many halls and corridors are found in this wonderful structure.

The temperature is nearly uniform, and is produced by natural and not by artificial heat. No dust is allowed to accumulate in their apartments, and their storerooms are mostly filled with the good things of the land. Her Majesty's subjects prepare three kinds of food—one for the royal princesses, another for the gentlemen, and the choicest for the ladies. Each member is entitled to a room until of age; and they are served in these rooms with food. The apartments are of different dimensions—the smallest for the ladies, the larger for the gentlemen, and the largest for the princess royal.

When arrived at full age, the workers take them in charge; and after a ceremonious inspection they are set at liberty to work out their own destiny.

The young princesses must leave the palace immediately, and establish a government elsewhere, or the queen regnant may abdicate, or else war will ensue, and end in the destruction of the princess.

Sometimes the princess will collect an army and wage war against the queen, and fearful battles ensue, leaving the field covered with the dead and dying.

The youths are always dressed in white till they are nearly of age, when they assume a dark dress, and ultimately they are arrayed in drab, ornamented with golden bands.

This is a very imperfect sketch of one of the most interesting and suggestive works of creation, hitherto baffling man's ingenuity to find out in all its parts the why and the wherefore of this and that, leaving him to ponder over his finite powers and to realize the truth of the saying, "Thus far shalt thou go, and no further."

Viola, Ia., Jan. 29.

MRS. ATHANISSA SHAW.

My good friend, you should suggest to Bellamy, the author of the new book that has been making such a stir, that a hive of bees will give him a precedent for the new state of affairs he has pictured so graphically.

MY EXPERIENCE WITH CARNIOLANS.

AN ADVERSE REPORT AS TO THEIR TEMPER AND HONEY-GATHERING QUALITIES.

I RECEIVED six Carniolan queens, June 20, 1889, and introduced them successfully. The queens are very prolific. They were introduced to hives that were hardly strong enough to put on surplus boxes; but by the time that buckwheat was in bloom they were the strongest hives that I had, so I expected great things from them. But I was greatly disappointed. The air castles which I had built began to tumble. I looked often for the honey which they did not bring in; but my expectations ran high. I could see that they were industrious from *outside* appearance, working in rainy weather when the Italians and blacks were in the hives. They were very gentle until I came to take off the surplus honey. I knew the honey was there somewhere, for I knew that they could not work the way they did and do nothing. Well, I approached the hives with smoker, two-inch chisel, and veil. Of course, I knew there was no use for the veil, but I took it along from habit. Well, I gave the first hives a few puffs of smoke, then smoked them mostly out of the boxes; then I put the two-inch chisel under said case of boxes, and began prying. Well, after considerable hard work I got one end of the case up. The bees, about that time, became furious. Nothing would satisfy them but my making myself scarce. I took for the cellar, the place where I used to go when I began the business, and had a poor smoker. I got possession of the case after a while, but the honey was under the boxes in the shape of burr-combs. I at last succeeded in getting all of the cases off; but, what an appearance they presented! Those six hives had nearly as much brace-comb built as my 70 other hives. I got about two cases of buckwheat honey from the six. I got more than that from one hive of hybrids. I got most of my honey from buckwheat. The boxes presented a very uneven appearance. They would have from 9 to 13 ounces of honey in them, while my others would average about 14½. I got rid of

the honey by selling it at two cents less a pound by weight, and taking trade for it. I think they are the ugliest bees I ever saw or had any thing to do with, out of the honey season. You can not look at their hive at that time but that they will come for you.

G. J. BROADBENT.

Factoryville, Pa., Feb. 15.

Your experience tallies very closely with a couple of queens we tested last season. Still, the majority of the Carniolan queens may be better.

THE WISCONSIN STATE BEE-KEEPERS' ASSOCIATION.

HELD IN MADISON, WIS., FEB. 5, 1890.

It has been for some years the custom of our Wisconsin friends to have a session of only one day. Another year, however, they propose to devote two days to it. Our friends will recognize many of the officers, from the mention I gave during my visit to Wisconsin last July. The president, C. A. Hatch, was unfortunately attacked by the grippe just as he arrived at Madison the evening before. He, however, stayed with us most of the time, although he looked so pale and sick that we all felt sorry for him. The president's address covered quite thoroughly the whole ground of bee-keeping. One especial point he brought out was,

BEES DEAD AND DYING AROUND ON THE GROUND DURING THE MONTH OF JUNE.

Considerable discussion arose in regard to the matter of dead and dying bees that were found around the apiary during the opening of the white-clover bloom last June. This phenomenon seems to have appeared about the same time in a great number of apiaries, north, south, east, and west. Various suggestions were offered as to the cause; but when we all got through, I believe the testimony was the strongest in the line that *lack of food* was the cause, and that they either came so near starvation as to crawl out of the hive in a helpless state, or that the brood had lacked food in *some stage* of its growth, so as to weaken the vitality of the young bees. Several of the friends thought this could not be possible; but so much testimony was given of finding hives without a drop of honey, that it seemed to be the most reasonable explanation. I remember that, some years ago, during the month of June, when our bees were rearing a tremendous sight of brood, I would often find hives in the morning without a *cellful* of honey to be found. Before night, however, the combs would be apparently pretty well filled; that is, more or less honey would be seen sparkling in nearly every empty cell. The quantity of brood was so large, however, that it was all consumed during the night; and when morning came, *again* not a cellful could be found.

CARNIOLANS.

Rev. T. E. Turner read quite a lengthy article in regard to the Carniolans. My impression was, some time before he got through, that he was giving them very much more credit than they deserved. When he wound up by claiming that they could be

handled at all times and under all circumstances, without veil or smoker, I felt sure that somebody would reply. The reply came from the vice-president, Rev. Mr. Winters. He narrated, in a comical way, the tremendous amount of trouble in the way of stinging he had with some Carniolans that came from the writer of the above article. Mr. Turner explained that the bees in question were not *full-blood* Carniolans, but only hybrids. In reply to a question he said the hybrid Carniolans were the worst bees to sting we have. In his paper he admitted that more or less yellow bands were found among the Carniolans; whereupon somebody asked how he could tell by the *markings* which queens were pure and which were hybrid. He replied that nobody could tell any thing about their purity by their markings. This created considerable merriment. On further questioning he said the only test was their temper; and I believe that this seems to be one of the most fatal objections to the Carniolans. Unless we import a queen for every hive in the apiary, we can have no assurance that our bees are pure. Our readers are perhaps aware that we have been testing Carniolans ever since they came to our country, and we never have been sufficiently well satisfied with *any* of them to think of offering them for sale. The greatest fault we have with them, however, is that they are *not* good honey-gatherers. See the preceding article.

We were all very sorry to find that Mrs. W. J. Pickard, and also our good friend E. France, were both unable to be present.

S. I. Freeborn's excellent paper on overstocking will be found elsewhere in this issue.

In regard to the social and humorous part of the convention, our friends in Wisconsin are not one whit behind those in Michigan and other States in good nature. Quite a few of the bee-men of Wisconsin are old-countrymen; but their genial good nature and readiness to joke with each other put us all in the best of spirits very soon. Dr. Miller said he was not feeling very well when he came in; but he laughed so heartily that it shook out the headache and every thing else; and even the parting twinges of the grippe that still clung to him had to give way and *let go* in the presence of so much merriment. I laughed so much several times that I really felt sore.

It was certainly a pleasure to see and talk with, face to face, the three Franks who were judges of the honey-exhibit—Frank McNay, Frank Wilcox, and Frank Minnick. Our good friend Dr. J. W. Vance also, besides being secretary, contributed largely to the interest and profit of the occasion. F. L. Snyder, whom I have mentioned several times before, was also present; but he did not get over his bashfulness so as to talk very much to us during the convention. Mr. B. Taylor, of Forestville, Minn., contributed a good deal to the meeting. He brought a model of his bee-hive, which he has had in use for 25 years or more. He calls it the "Handy" hive. Fully 25 years ago he formed the idea of having the surplus apartment exactly like the brood-apartment

—that is, so far as size and shape were concerned. Of course, the brood-combs would have to be made shallow in order that they might answer tolerably for holding the frames small enough for surplus. Accordingly he makes all stories of his hive so as to hold a frame only $4\frac{1}{2}$ inches deep. This depth was decided upon from the fact that fence-boards 6 inches wide were always to be had, of pretty fair lumber, and at a comparatively low price. The hive is made with beveled joints, to keep out wind and rain, and to keep them in place, very much as I designed the Simplicity hive originally; but his hives are (as mentioned) only about half the depth of the regular Simplicities. As he makes the hive square instead of oblong, the shallow frames contain from three to four pounds of comb honey. He has a special mode of manipulating them so as to get large yields of surplus comb honey, and, also, so as to manage artificial swarming in a very expeditious and certain manner. He winters in the cellar, and prefers only *one story* for wintering, even with combs only $4\frac{1}{2}$ inches deep. Before his explanations were given, a good many said he had been copying Heddon's new hive; but it transpired, however, that he had been using these hives by the hundreds for many years *before* Heddon's patent, and so these charges were withdrawn. Mr. Taylor has been an extensive customer of ours for a good many years. When I asked him why he had never given us a description of his hive for print, he said he had done that very thing, but for some reason or other "we editors" had decided not to publish it. As he is located quite a distance from his railroad station, he does not make *hives* for sale; his sole business is raising honey.

SPREADING BROOD.

FRIEND DOOLITTLE REPLIES TO MRS. HARRISON.

WELL, surely Mrs. Harrison is having a hard time in picking that old "crow" (see page 93 of GLEANINGS). It would naturally be supposed that Mrs. H. had lived long enough to know that "tough birds" pick more easily after immersing them in boiling water—water heated by strong arguments, backed up by years of practical experiments along the line under discussion, rather than giving them a bath in the cold water of one failing experiment. No, Mrs. H., you can never get out those wing and tail feathers in that way. The top of my shiny pate shows that the tenderer (feathers) hairs have been pulled out, but I shall protest most furiously against losing the rim of hair left around the out edges, let me assure you. Now, joking aside, I wish to thank my good Sister Harrison for bringing up this subject of "spreading brood in the spring," for it gives me a chance of saying a few words on the subject which I have wanted to say for some time, yet I saw no good opportunity for so doing. If in any article that I have ever written I have conveyed the impression that an indiscriminate spreading of the brood would be of value, either to the novice or the expert, I wish to take it *all back*, for I never wished to convey any such idea. In some of my articles I have placed the time of commencing to spread the brood at about May 1st.

This was done with the expectation that *each one* would use judgment, that judgment to be based upon his locality, the condition of the bees, and the advancement of the season. For instance:

One season, when the first day of May arrived, there was not a particle of brood in any of my hives to spread. For me to have tried to spread the brood at that time would have shown that I was devoid of common sense. Again, in 1878, when the first day of May arrived, all of my hives were filled with brood and bees, some colonies having eggs and larvae in the queen-cells preparatory to swarming. To have waited till the first of May before touching the bees, in such an early season as was that of 1878, would have shown that I was not "up and dressed" as I should have been. Once more: All the colonies in any apiary can not be treated alike. Take an ordinary year in this locality, the date being May 1st. In the first hive we open, we find a goodly number of bees, say enough to cover seven combs on a frosty morning. We open the hive and find brood in only five combs. The center comb of the five has brood in it all along the bottom and side bars, as well as at the top. The two on either side of it are two-thirds filled, while the two outer frames have brood in each, to the amount of one-third of a frame full. Now, practical experience, covering a period of 17 years, has proved to me that a gain of two days in bees can be secured by reversing those combs of brood, or, in other words, placing the middle combs, or those the fullest of brood, on the outside, and those from the outside, having the least brood in them, in the center. By this plan we have not really spread the brood, but we have placed it in such a shape that we have made an ample number of bees desire all the brood which they could care for; and the result is, that in about a week, or the next time we open that hive, we find those five frames all solid with brood—a state of things which would greatly delight any bee-keeper. We now put a comb of honey, having its sealing broken, in the center of these five filled combs of brood, which so stimulates the bees, when removing it, that, should a cold night now occur,—yes, or two or three days of cold weather,—the bees will be so active that the required temperature is kept right up, and a gain of two or three days more is made. So we keep on with this colony till the hive is filled with bees and brood, *one week*, at least, earlier than it otherwise would be; and when this week of bees comes at just the right time for the honey harvest, they will make all the difference between a full crop of honey and half a crop, or, in extreme cases or short seasons, no crop at all. Have I not, then, received pay for my trouble?

The next hive I come to gives off a light buzzing sound, scattered down between two or three spaces of combs, thus showing that there are but few bees in that hive, for I do not know that I ever opened a very weak colony of bees without hearing this sound. I know that it is weak *in bees* from this, but am surprised to find that they have brood in three combs: and the wonder is, that the bees have held that brood as well as they have. Now, should I treat this colony as I did the first, the veriest novice, standing by, would say, "Doolittle, you have lost your reason." This colony has all of the brood crowded together, so that there is only just space enough between the combs for a single tier of bees to stand, similar to the contraction plan as recommended by Bro. J. E. Pond, and the bees are shut

on these combs of brood and tucked up as warm as possible, so that they can hold this brood till it matures. Here they are kept till they have these frames filled with brood clear down to the bottom corners, and till the bees begin to crowd out beyond the division-board, when it is time to treat this colony the same as we did the first, and they should not be so treated *one day earlier*. From what Mrs. H. says about the "remnants" she practiced upon in trying the "Doolittle" plan, I think she will see why she did not succeed. Once more:

In the spring of 1875, about the 15th of May, I went down to Bro. Betsinger's to borrow \$300 to put with \$600 which I had to build the house I now live in; for, after paying \$600 for the land where was to be located my future home, the former \$600 was all of my earthly possessions, except some household furniture. Upon arriving at B.'s I found him spreading brood and handling his bees as if it had been June, for the place where he then lived was a very sheltered one. When I came home and went out into my bee-yard, here in "old cold Spafford," as this town is termed, and looked at my 46 remnants of colonies, only two of which had brood and bees enough in their hives to call colonies, I was thoroughly discouraged. I went to the house, sat down, put my elbows on my knees, and my head on my hands, and thought. Now, according to the verdict "of the heavy producers" at the Michigan Convention, lately held, my conclusions should have been, "Take \$100 of the borrowed money and buy bees with it, not fussing with them or those you have; for what *you should be after is, the greatest amount of money with the least expenditure of labor, for time is money.*" Instead of this, after a few minutes I said, "\$900 is too small to build such a house as I want; I can not run in debt more; those bees must receive my very best care, give me a living, and help on building a better house than I now contemplate." I arose, went to work in accordance with the above, gave them the attention they needed *just when it was needed*, according to my best judgment, and in the fall I had almost \$1600 as my pay, they producing an average of a little over 106 pounds of comb honey per colony, spring count. This paid back the borrowed money, gave me a little to lay aside for a "rainy day," besides building a better house than I had first planned, and putting into my life an ambition never before enjoyed.

□ The idea advanced by some of our brethren, regarding the greatest amount of money with the least expenditure of labor, has a smattering of the thought that "bees work for nothing and board themselves." The thought seems to be, that the same labor given to 200 colonies in producing 5000 pounds of honey is better than the same labor spent on 50 colonies to produce the same amount. This is an unprogressive idea, and one that should not be tolerated by any one who wishes to rise in the world. It is only on a par with the rule so often adopted, of poorly working four acres of land to get the same results obtained by friends Root, Terry, and the late Peter Henderson, from one acre. Why, Mr. Terry would not care for a hill of potatoes as some of these do for their bees. He believes in planting his potatoes in the right time, fertilizing and cultivating the ground and the plants in the right time, while the fighting of the beetles and their larvae, digging and caring for the crop, etc., are all alike thoroughly looked after.

Because some one, or the multitude says, so much fussing is not in accordance with the greatest amount of money with the least expenditure of labor, does not affect Mr. T. or his progressive ideas in the least, for he proves to himself year by year that his is the course that an intelligent man should pursue, not only as far as dollars and cents are concerned, but in lifting mankind up out of the slipshod way they have been in the habit of doing things, and putting an ambition in them which causes them to look away from self out toward a higher and nobler life, which contemplates a love for the beautiful and progressive, for mankind in general, and for the Creator of all which we enjoy, in particular. Just so regarding the pursuit of bee-keeping. Letting the bees "manage their own domestic affairs," as Mrs. H. proposes, is only admitting that we are not capable of doing things at just the right time and in the right place, and has not an atom of soul-stirring thought in it, or any thing which looks toward attaining in the future any achievement not obtained in the past. Brethren and sisters, don't let us settle down on any such ideas of non-progression, but, rather, let us say, "Nothing is impossible in this progressive age." Now, Mr. Editor, if you consider this article too fiery or too long, so arrange the articles which you publish that no one shall pour cold water on that "old tough crow" when they attempt to pick him again.

G. M. DOOLITTLE.

Borodino, N. Y., Feb. 17.

ADAPTING T SUPERS TO THE DOVE-TAILED HIVE.

DR. MILLER GIVES US SOME WISE COUNSEL.

THE veterans who have been raising honey for years are pretty well settled as to the appliances they shall use. They have learned what suits them, or they have become so accustomed to what they have, that they think nothing else can be better. Even among them there is found more or less reaching out after something better, so that what may be accounted the best appliances to-day may be superseded in a few years by something quite different. This being the case, so much changing, so much difference of opinion among those who have settled upon what they think best, I do not wonder that the beginner may feel much distracted in trying to settle upon what fixtures he shall use. In the hope of helping such a little, I have undertaken to write this article.

Now, Mr. Beginner, I must tell you plainly in the beginning, that I don't know all about what is the best for you to use; and if I thought any one else could, I would not trouble you with this talk. But I can talk a little about some general principles, and this may be of some use to you. My experience has been mainly with comb honey, which will limit my suggestions somewhat to that side. You have dabbled a trifle in bee-keeping; have read the differing views of bee-keepers, and have formed some theories of your own, and one of the first things you are likely to do is to plan a hive and appurtenances thereto belonging, that embodies all the best principles, and that shall differ from all hives already made.

Now for a first word of advice—*don't*. Won't take my advice? Know more than anybody else, and can get up something away ahead? All right; go

ahead; and after you've kept bees for a year or so you'll not be so smart; and it may be time enough then to read the rest of this article. Now, after you've got through inventing the Great-Eureka-warranted - not-to-rip-ravel-nor-run-down-at-the-beel hive, let me advise you to commence with one of the hives already in use. It really does not make such an immense difference what kind of a hive you have, so far as the bees are concerned. They will store about the same amount of honey, whether you shorten or lengthen your frame the hundredth part of an inch. But it does make a difference whether your hives are all alike, and you will find it quite troublesome to change from one hive or frame to another. There are two things so generally in use that they have become a kind of standard. One is the frame $17\frac{1}{2}$ inches long and $9\frac{1}{2}$ deep, outside measure; the other is the one-pound section, $4\frac{1}{2} \times 1\frac{1}{4}$. I use a frame $\frac{3}{8}$ longer and $\frac{1}{8}$ shallower than the one I have mentioned. I don't know that it's either better or worse; but I'd give quite a little if all my frames were of the standard size. In that case I should be more like others, and it is so much more convenient to be able to order goods of standard size that are always kept in stock. But having commenced with an odd size, each year that I increased the number of my hives made it harder for me to change. So, try to start so you will not want to change. If you settle on the frame and section, then every thing else must conform. As many of the readers of this journal may be influenced by what has been said in its pages and in friend Root's price list, I will comment thereon. Much has been said in favor of chaff hives, and I don't blame friend Root for speaking so highly of them, because he has succeeded so well with them himself; and if I lived in Medina I suspect I should be a chaff-hive man; but being where I think I can do better to winter in a cellar, I think I am not likely ever to care for any thing much different from the Langstroth hive. Most of the improvements made upon it at different times have been not improvements. The Simplicity is really a Langstroth, but some things about it are not liked by some as well as the old Langstroth. The new Dovetailed hive is really a Simplicity, in my opinion; and in some things it goes back to the old hive. But I am afraid some may be misled to use with it the section-holder, who may afterward wish they had started with something else. It has been recommended, and I think it likely that a very few, after trying it fairly side by side with the T super, may conclude they prefer the section-holder, but I think the great majority will prefer the T. It is true, that the section-holder just fits the Dovetailed hive, and presents a very pretty appearance; but it is also true, that the T super just fits the $4\frac{1}{2}$ section; and because the L. frame is best to use, and the $4\frac{1}{2}$ section, I would use the best thing to hold each of them, and adapt the two to each other as best I could.

The objection to the T super is, that it is shorter than the Dovetailed hive, and, when placed upon it, leaves a small space either at the front or back. But, following the lead of Adam Grimm, many think it very important to have just that space at the back end, so that the bees may easily keep the brood-nest cool in hot days. If wanted closed, it is very easy to do so by placing a little stick over the opening, as I have done for years when I wanted it closed. I do think it is paying a very high price for

the matter of looks to use the section-holder in place of the T super. Possibly it is because I am used to it; but the inequality in the lengths of hive and super does not offend my eye.

Perhaps I may give some of the objections to the section-holder. The sections rest on a bottom strip which is light, and will pretty surely sag more or less. The bottoms of the sections will not generally correspond with the bottom-bar of the holder, and, as a consequence, bee-glue will be plentiful in the angles; and you may be sure that, wherever the sections do not fit down snug upon the bottom-bar, the bees will thrust bee-glue between. The holders make more weight to handle, and tin separators must be used. If it has a single advantage over the T super, I do not know it, with the single exception of its being the same length as the Dovetailed hive. I confess I don't like the idea of a section-holder and T super combined. I want the T super in its best form, and certainly that is not by making it an inch too long.

And now I have done what I wanted—given some general hints, and especially warned beginners against adopting the section-holder without first giving it and the T super a fair trial. From the number who have used the T super—which is not always, but pretty often, a safe guide—you may judge something. Friend Root tells me that, for the Simplicity, of late, the T supers have outsold the wide frames three to one, and the section-holder is a modified wide frame without any top-bar—in my opinion, no better for being without the top-bar. The immense sale of Dovetailed hives makes me anxious that no one shall think that, just because the section-holder exactly fits the hive, he must use it in preference to something better. If you are very anxious to have the super the same length as the hive, then order the T super with one end filled in; then, if you wish, you can take out the filling and use it as a section-holder; and by putting one on top of another you can use the pair as a hive-body to hold brood-frames. C. C. MILLER.

Marengo, Ill., Feb. 22.

I will explain to our readers, that, after the Ohio Convention adjourned, Dr. Miller, and Dr. Mason, of Toledo, were both invited to come down to our place and give their opinion in regard to a good many unsettled problems in bee culture coming before us during the opening of the season of 1890. These two veterans met and conferred with the wise heads of our establishment; and I tell you it made quite a pleasant little convention. We had a session of two or three days, and the result of it was some marked improvements in many of our implements. The aim was to reduce expenses, and to confine ourselves, so far as possible, to the regular goods already in use. The Dovetailed hive, at the present time, is certainly more simple than the Simplicity, and justly deserves, I believe, being called the *Simplicity* hive at the present date. We are now shipping them by the carload, and our whole establishment is hardly equal to the demand. Very likely, five times as many are sold as of the old Simplicity, and perhaps the Simplicity had better be laid aside, although I confess there are some features about it that I dislike to see dropped. Making the bottom-board and cover one and the same thing can not well be managed with

the Dovetailed hive, or, at least, I myself do not think it advisable to try to do it; and I agree with Dr. Miller, that the T super as he uses it is perhaps the simplest surplus arrangement for the one-pound section that has ever been brought out—that is, it is more likely to please the masses.

HEADS OF GRAIN FROM DIFFERENT FIELDS.

RIPENING HONEY IN HOUSES, ETC.

When honey is stored in houses built for that purpose, is the temperature allowed to go down to the freezing-point and below? GLEANINGS once told us that extracted honey should stand 24 hours before being sealed up. The plan works well. But when I wish to melt candied honey I should like to seal it while hot. How can I do this and not have it ooze out? It is quite sure to find its way out of the Mason cans unless it stands the 24 hours.

Tell us about the strawberries. The Jersey Queen produces many strong plants. The Jessie is slow about sending out runners. LIBBIE WILLIAMS.

Delavan, Wis., Feb. 13, 1890.

Comb honey should not be allowed to get below freezing. If it does, however, usually no great amount of harm is done. Sometimes the combs are cracked by a severe freeze; and sometimes, if a damp spell follows, dew collects over the cold surface of the capped honey. This may work through the capping so as to dilute the honey; and if a warm spell follows, this sweetened water will sour enough to give the honey a bad flavor. Keeping comb honey at an even temperature remedies most of this. What GLEANINGS said about letting extracted honey stand had no reference to the prevention of candying. If you want to prevent candying you must heat it to about 130 degrees, and then seal it up like fruit, while hot. Put up in this manner it will seldom candy, no matter how cold it gets, and, of course, there will be no oozing if the sealing is perfect. We have not had any trouble with the Mason fruit-cans when put up exactly as we can fruit.—My good friend, have you said just what you intended to say about the strawberries? With us the Jersey Queen is the slow grower, and the Jessie is the one that produces so many and such excellent strong plants. In fact, we have decided to drop the Jersey Queen when we can get a better-growing plant that produces as large a berry. It is possible, however, that your locality and soil make this difference.

THICK BARS A SUCCESS; THE THEORY THAT BEES WITH THEM WILL NOT ENTER THE SECTIONS AS READILY, A FALLACY; NO USE FOR HONEY-BOARDS.

The use of thick top-bars has been a success with me. They have come to stay. I have them in all my yards, and will have no frame made now unless it has a thick top-bar. Five years ago I changed all my bees to a frame whose top-bar was 14½ inches long, ¾ wide, ¾ thick, and 10 inches deep. I put 11 of these frames into a hive 16 inches wide, and I haven't been bothered with brace-combs and running their cells all over the tops of the frames as

they do when the top-bars are but ¾ of an inch thick. I have had the queen go up into the sections but once that I remember, and that time she laid in a lot of drone-cells, and the hive was contracted to only 8 frames, so I have no use for honey-boards; and by experiment I have had them carry their honey up over 10 or 12 inches of sealed honey to put it into the sections, and I couldn't see but that they stored it in the sections just as fast as the other colonies just as strong in bees whose sections were but two or three inches from the brood. So I have no faith in a ¾-inch top-bar putting the brood too far from the sections.

C. M. HICKS.

Fairview, Md., Feb. 10.

THE BEE-ESCAPE FOR EXTRACTING; FURTHER PARTICULARS.

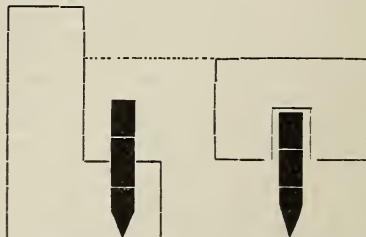
I should have said (see page 100), that a case of empty combs should be put under the full one before it is finished, or else at the time of putting on the escape; then, even if the bees are bringing in five or ten pounds per day, there is no loss whatever—not even as much as when smoke is used, and they are shaken from the combs, and are upset and confused for the rest of the day. I love the little bees, and am glad to use any plan that will do the work with so little smoke, for I think they deserve better treatment than they get from some smokers.

H. P. LANGDON.

East Constable, N. Y., Feb. 12, 1890.

FRAMES AT FIXED DISTANCES.

Mr. Root:—You ask for suggestions for a plan to space frames at fixed distances. How will this do? Drive the points of 4-penny wire nails into the rabbit, just the distance apart that you want your frames spaced from center to center. Then cut a slot in the end of the top-bar so as to hang as shown by diagram below.



Where a groove is cut in the top-bar for comb-guides or starters there will be nothing to do but to drive in the nails, hang in the frames, and they will be fixed as substantially, I think, as will likely be needed under any thing like ordinary circumstances. This plan is suggested for all-wood frames only. The points I would claim for this spacer are, that it is out of sight, out of the way, and, by having nails of just the right kind, it would cost almost nothing.

E. R. JEFFRESS.

Martin, Tenn., Feb. 11, 1890.

Friend J., your suggestion is very ingenious indeed, especially the idea of taking advantage of the groove on the under side of the top-bar—that is, where that kind of top-bar is used, though with the ordinary kind a machine could be made to cut a groove very rapidly in the under side of the projection. This groove allows the frame end to shake, but holds it only at a fixed point of distance from its neighbors. For fifteen or twenty years past we have so many times

(that is, a great part of the bee-keepers of the United States) decided that we could not tolerate frames at fixed distances, it seems a little singular that we should be coming gradually toward it at this late date. The point seems to be, that, if we can get rid of burr-combs, we must have frames at fixed distances. Now, the question is, Which is the greater evil—burr-combs or fixed distances? Of course, it is quite important that these headless nails be driven exactly where they are wanted. In order to do this, I would have a metal spacer with holes $1\frac{3}{4}$, or whatever distance is decided on, from center to center. Drive the nails through these holes down flush with the surface of the metal gauge; slip off your gauge, and they are not only exactly spaced, but they reach up exactly far enough and no further. My advice would be, to try a hive or two, however, before you fix many in this way.

WILSON'S \$5.00 BONE-MILL, ONCE MORE; A SUGGESTION FOR DYSPEPTICS.

Five years ago I bought one for crushing bone and shell for poultry, for which they are especially recommended. When it came, however, and seeing on the directions that also good graham flour can be made with them (we being great lovers of this delicious nerve and bone strengthening article of diet) we at once gave it a trial, and we are happy to say we found this claim fully authenticated. Finding it rather slow work, however, I procured the gearing of an old fanning-mill, attached it to the mill, and fixed it all on a suitable frame, by means of which gearing I gained nearly five revolutions of the mill to that of one of the hand, thus giving it a high speed.

This mill we have been using ever since for making our graham flour, and it makes an article of its kind equal to any in the market. Whenever we desire a feast of fresh graham gems, or a delicious dish of graham porridge, we simply grind a sufficient quantity of wheat needed for the time, which is generally done by the children. This not only gives us the chance of using only the most select wheat, but also the advantage of having always freshly ground flour, which is a very essential point in good graham flour and sweet graham gems, as this flour, unlike that of the white flour, loses its good sweet flavor by age, the same as corn meal does; and, aside from all this, our flour costs us not over half of what it is sold at in the market.

I do believe—yea, I know it—that if the many dyspeptics of our land would resort to this kind of diet, and do their own grinding also, considerable less complaining of this kind would be the result, and much better health enjoyed.

We always dry our sweet corn instead of canning it, and then before cooking it in milk we run it through the above-named mill and crack it, which greatly improves it. Please try it.

Elkhart, Ind., Feb. 10, 1890. M. D. WENGER.

THE IGNOTUM TOMATO IN FLORIDA.

Friend Root:—If you remember, last fall I got $\frac{1}{2}$ lb. of Ignotum tomato seed of you; and I want to tell you how I like them. I have raised tomatoes in the South for the last 13 years, and, notwithstanding a six-months' drouth, they certainly are the greatest yielders, and the largest and finest, I ever saw South. My patch has advertised the Ig-

notum far and wide, and are the surprise of all who see them. I am now shipping to New York. I find only one fault with them. While the seed was comparatively pure, it was mixed with a small, very prolific red variety, and a large, round, smooth, bright yellow variety. It is also prolific. I think it will be an easy matter to get them pure, for a genuine Ignotum can be told by an intelligent grower before they bloom. It has very large leaves, and long leaf-stalks; is very heavy, stocky in growth, and has, when growing rapidly, a peculiar yellowish color in the center of the leaf-blades. Now try, friend Root, and have your next crop true, and I predict a great sale for the seed. G. W. IDNER.

Tillman, Fla., Jan. 22.

Many thanks, friend I. Our Ignotum tomato seed is all saved from choice specimens; but we have never made any selection in regard to the plants. We thank you for the suggestion, and will act on it this coming season. We had already noticed that the Ignotum has a different look from other tomatoes, but had not followed it out as you have. As several have reported a yellow Ignotum, it is doubtless a sport; but I am inclined to think the small prolific red variety must have got in by mistake in saving the seed, for we had such tomatoes in the same field with the Ignotum. Your suggestion reminds us that we had better have our Ignotums in a field by themselves, and then make our selection of the plants from which to save seed. I shall be glad to know how the Ignotum bears shipping to New York.

A SABBATH-DAY QUESTION.

Do you consider it worse to sell honey on the Sabbath to your neighbors than to turn them away empty, providing, of course, they come and ask for it? What would you do in the case?

Oakley, Ill., Jan. 13.

FRANK BAKER.

Friend B., we have had exactly the same state of affairs here. If the honey were wanted for a case of sickness, hoarseness, or cold, or because it was recommended by the doctor, we would sell it on Sunday; otherwise I would ask my neighbor or customer to please excuse me, and I would do it in the pleasantest way I could. I would tell him the honey should be sent him early Monday morning, and that he could pay me the first time it was convenient, rather than take the pay on Sunday. If I never got my pay at all, I should feel much better than if I received it on Sunday. There might, however, be extenuating circumstances. If the simple act of handing over some money on Sunday would save somebody from making a trip on purpose, of course I would receive it. Some years ago a camp-meeting was held but a short distance from our place of business. Several came over from the meeting, and wanted to know if we would open our lunch-room and sell them some crackers and cheese. I considered the matter for a few minutes, and took a look at the applicants, but finally told them that I preferred not to open our place of business on Sunday. Had they been people who looked like worshipers, I would have freely given them the crackers and cheese, without pay; but my decision was, that they were a lot of ungodly young men, even

if they did come from a camp-meeting. The trouble is, these things are apt to start a precedent, and I should very much prefer to have it reported that we had declined selling honey on Sunday, rather than the other way. I think that, if it were a near neighbor, with whom we were on very familiar terms, I would give him the honey, and tell him that he could settle for it the next day; but I don't think I should hunt up the scales to weigh it. Better make him a present of a couple of pounds of honey—far better—rather than in any way let down your custom of remembering the Sabbath day.

WIDE TOP-BARS; BEES GO INTO THE SUPERS JUST AS READILY WITH THE THICK BARS.

Seeing there is somewhat of a discussion going on about wide top-bars and thick top-bars to prevent burr-combs, I thought I would give you my experience of the last three years. As I never used any top-bars $\frac{3}{8}$ thick, I shall have nothing to say on that score. The top-bars to my hives are one inch wide and $\frac{1}{2}$ inch thick, spaced $1\frac{1}{8}$ inches from center to center. With young swarms there are no burr-combs. With old colonies there are plenty of them, and the queen would go into the super if not prevented. Three years ago I took friend Alley's advice and made my top-bars $1\frac{1}{8}$ wide and $\frac{1}{8}$ thick, spaced just the same as above. I have no burr-combs from young or old colonies, nor does the queen go into the super. I can take off an extra super on a section super (where there is no honey-board), and the frames are all clean and nice—no burr-combs to stick them down. The bee-space over my top-bars is $\frac{1}{8}$ inch. I shall vote for wide and thick top-bars every time. I shall continue to use queen-excluding honey-boards for extracted honey. I do not have any trouble from the bees entering the supers over the thick top-bars, and I do not see but that they go up just as quickly over the $\frac{1}{8}$ top-bar as they did over the half-inch-thick top-bar. There is one thing, however, that compensates us for our trouble; that is, we have no sagging frames in our brood-nest. The combs are true, and straight as a board. A. A. BYARD.

West Chesterfield, N. H., Feb. 8.

Your last point, that bees go into the supers just as readily with the thick bars as with the thin ones, is valuable. Some of the friends (who probably had not tested the matter) thought it would make a difference.

THICK BARS; QUEENS NOT ALWAYS GOING ABOVE THEM.

Ernest asks, on page 20, "Are there not some who have tried extra-thick top-bars of extra width?" etc. To this allow me to say: Fifteen years ago I adopted a frame made of material one inch wide, top-bars being $\frac{3}{4}$ and some $\frac{1}{2}$ inch thick; and ever since, I have had in constant use about 150 hives with such bars. As far as preventing burr-combs on top of frames is concerned—supers always properly adjusted—they have not proven satisfactory. It was not until 1885 and 1886, when I was in business in Virginia, each year handling about 200 colonies in L. and similar hives, having $\frac{3}{4}$ x $\frac{1}{2}$ top-bars, that I began to notice the greater amount of burr-combs on top of the frames in these hives. Mr. H. W. Bass, in Front Royal, Va., I think, will remember the discussions we had there on this subject at that time. However, I attributed the smaller

amount of brace-comb to the greater width rather than to the greater thickness of the top-bars; and I hold to that opinion to-day. My conclusion seems to be upheld by observations made on a number of reversible-frame hives, having top-bars of $\frac{3}{8}$ -inch thickness, and also on a number of other hives, which had the brood-combs crowded closer together. My bees in the first-named hives did not show any more of a desire to build burr-combs than in the hives having heavier bars. In the last-named hives the amount of brace-comb decreased in the same ratio as the space between the top-bars decreased. Summing up, I believe we can put it down as a rule, that "the less space between top-bars, the less burr-comb on top of frames;" but whether or not we can entirely dispense with Heddon's slatted honey-board, further experiments must settle.

Somewhat contradictory to Mr. C. G. Looft's experience, I find that my queens will occasionally enter the supers, notwithstanding nearly all my hives have top-bars one inch wide by $\frac{3}{4}$ x $\frac{1}{2}$ inch thick. This, however, I do not consider any great damage, for a few sections with drone brood have a wonderful influence in starting a lazy colony in the section-super, and I am glad whenever I find a few such. F. GREINER.

Naples, N. Y., Feb. 1.

In the first instances, if your top-bars had been spaced $\frac{1}{8}$ of an inch apart, I feel quite sure you would have had no burr-combs. Thickness, as well as close spacing, is important. We tried, last summer, wide top-bars spaced $\frac{3}{4}$ inch apart, but only $\frac{1}{2}$ inch thick, and we had some burr-comb, but much less than on the other hives. Your point, that a little brood in the sections acts as an incentive for entering the same, is good. E. R.

COVER-BOARDS TO PREVENT WARPING.

I am much interested in the various ideas, notions, and devices brought forward by your correspondents; and I would suggest, for Dr. Miller's benefit, a cover with the ends of the board grooved out, and a good hard-wood cleat, with tongue, same thickness as the board. No doubt this has been thought of, and rejected for good reasons. WM. H. ALLEN.

Monroe, Mass., Feb. 8.

Your cleat would be good; but a groove wide enough to take in the whole end of the board would be better.

DO BEES WORK ALL NIGHT?

Do bees work at night? Do they carry on comb-building, feeding brood, laying, etc.? I can find no reference to it except in the Dzierzon Theory, and in cases where they are fed just at night.

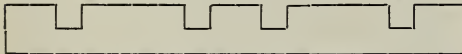
A B C SCHOLAR.

Bees work all night whenever there is work to be done; and there is always more or less to be done during almost every month in the year. Brood is fed all night as much as in the day time. Cells are prepared for the queen to lay in, and the queen goes on with egg-laying just the same. During the honey season, more comb is built during the night than at any other time, and both pollen and honey are taken from the cells where the workers deposit it during the day, leave it where wanted, prop-

erly packed away and sealed over. Don't go to the books for things like this, but go to your hives and examine them by lamp-light.

METAL-CORNERED FRAMES AT FIXED DISTANCES; ANOTHER IDEA.

On page 99 you ask for suggestions in regard to spacing brood-frames; and after reading friend Phelps' article carefully I have decided to suggest an old idea of mine—one that I thought of almost a year ago, yet I did not use it, as I thought it would be hard to make. For example, take a metal-cornered frame and a piece of heavy tin or zinc. Cut the zinc $\frac{3}{8}$ inch wide, and long enough to reach from one side of your hive to the other, on the inside (of course we shall need a strip of zinc at each end of the hive). Now cut notches in one edge of the zinc, $\frac{1}{8}$ inch wide, and $\frac{1}{2}$ inch deep. Cut the first one $\frac{1}{2}$ inch from the end of the zinc strip, and the next $\frac{3}{8}$ inch from the first, and the next $\frac{1}{2}$ inch from the second, and so on. Now place the arms of the metal corner in these notches, and the frames will not only be perfectly movable, but they will be spaced 1 $\frac{1}{2}$ inches from center to center, thus.



VAN HOUTEN'S NOTCHED RABBIT.

I believe that those who are rushing after thick top-bars just now will soon have thick top-bars and honey-boards too.

I have been convinced thoroughly, by practical experience, during this winter, that it will not do to shut bees in their hives while in the cellar. I tried confining them, and find it a good way to produce dysentery in a very short time.

Smithfield, Ill., Feb. 3.

C. W. VANHOUTEN.

I have thought of this same thing. The rabbets could be notched with a die; but the trouble I fear is, that the metal corners would hop out of the notches over a rough road, in moving.

AN EXTRACTOR RUN BY A STEAM-ENGINE.

I have thought that I should have to buy me an extractor this season; but from what Bro. Osburn says, I am afraid to buy, for I can't stand it to buy a steam outfit this year. I should like to know how many colonies of bees he has. He must have a "right smart heap" of them.

How often should we change queens?

Hammond, Wis., Feb. 6.

A. E. BRADFORD.

Don't be troubled about Osborn's extractor or run by a steam-engine. He has charge of some seven or eight hundred colonies; but it will be a good while before he gets the steam 24-frame extractor to going. —A. E. Manum and Captain Hetherington change queens as often as two years. The majority of honey-producers do not. The two bee-keepers mentioned are two of the most extensive bee-keepers in the country, however.

BEEES AND POULTRY.

Eight years ago, when I was about 16 years of age, I started up with a few colonies of bees. I always made bees pay fairly well, but hardly as well for the money I had invested as I could poultry. One year ago a friend who keeps poultry for the money there is in it helped me to construct an incubator. I knew nothing about running one, but I followed directions; and the first time, out of 200

fertile eggs I got 168 chickens and raised 140 of them.

Ed. W. COLE.

Kenton, O., Feb. 5, 1890.

SHIPPING BEES BY FREIGHT, WITH HOUSEHOLD GOODS.

I have 40 swarms of bees, which I wish to ship about 200 miles. Shall I hire a car to put them in, together with some of my household furniture? Now, how would you fix them for shipping? Can they be stacked up without being in danger of falling?

Is Missouri a good honey State? Which part is the best?

Do you know any thing of Macon or Adair Counties as honey-producers?

W. H. HEATH.

Strawberry Point, Iowa, Feb. 6.

Bees can be shipped with household goods, provided you put them on the car and take them off yourself. They must be stacked up in such a way that the bumping of the car will not endanger tumbling them down. If the frames are not wired they should be parallel to the track; and in either case they should be fastened.—The State of Missouri gives us some fair honey reports—not greater, however, than other States, on an average. We can not tell you which part is best, nor any thing about the counties mentioned. Better write to the postmasters and ask for the address of those keeping bees.

STAPLE-SPACERS AN OLD IDEA.

Staples for spacing frames have been in use by Mr. Benegar, of this place, since I came here, six years ago. How long he used them before that, I don't know. He makes his own hives and frames (an odd size), and calls them Benegar's patent hive, the patent being on the staples. I don't think he has ever taken out his patent. Bees are swarming.

Sara Sota, Fla., Feb. 5.

S. C. CORWIN.

Thanks for the information. Whether patented or not they will be objectionable for uncapping with a keen uncapping-knife, and we have abandoned the idea. Staples in the rabbets would be better, and free from this objection.

SEALING HONEY TO PREVENT CANDYING, ETC.

J. A. Buchanan says jars or cans for extracted honey must be strictly air-tight. In the fall of 1888 I heated some honey in the way we can fruit. I put cold water in a boiler, and put Mason jars of honey in the boiler. We have one jar yet. It was not sealed air-tight. We used to open it and look at it. The one jar that we have yet is so clear that my name can be read on the label by holding it to the window, and it shows no disposition to candy. I have heated some thirty jars this last fall, of unripe honey, as the honey wanted to boil over on the shelves, etc., and since then the honey seems to be all right, but thin; but it won't candy, and yet we had it in freezing weather.

Will some one tell me how to use honey vinegar? I rinse the honey-vessels, when empty, with hot water. In that way I get plenty of nice strong vinegar. But if I use it for pickles, or such things, I think it doesn't taste well.

MRS. S. S. KRATZ.

Hatfield, Pa., Feb. 18.

My good friend, it is hard accounting for all these strange things. If you had one jar that did not candy, I should say it was

an exception to the rule; but when you say you have *thirty* jars of unripe honey that will not candy, even though unsealed, since you scalded the honey to make it thicker, I can not even suggest an explanation. As a usual thing, sealing up certainly helps to prevent candying, although honey sometimes does not candy, even though left unsealed. If, however, it once gets started to candying it will candy very rapidly.—In regard to honey vinegar for pickles, Dr. A. B. Mason, who is now at my elbow, says they never have any difficulty at all in making nice pickles of honey vinegar; and all his neighbors get their vinegar from him just because it makes better pickles.

BEE-FEVER AND THE A B C; ITALIANS AHEAD.

About six years ago my husband took the bee-fever. He concluded he must have some bee-literature and go at bee-keeping right; so for the first dose he took the A B C of Bee Culture. That digested, he wanted bees. He made some frame hives, and transferred our four "stands" into frame hives. Having success in this he sent to Dan White for a few nuclei of Italian bees; worked them up to full colonies, as per bee-books (having in the mean time procured Cook's Manual and GLEANINGS), and got 75 lbs. of honey in 1-lb. sections from each, and that year was a poor honey season; but we saw at a glance that Italians worked when our blacks "didn't turn a wheel." We lost all our bees last winter except four colonies. Two or three died with honey in the hives. Last spring we increased to 12, and had 350 lbs. of surplus honey in 1-lb. sections. We like GLEANINGS very much. A. E. Manum's talks are very instructive, also G. M. Doolittle's and others'. JESSIE G. DICKERSON.

Nioga, O., Feb. 10.

BEEES MAKING A RAID ON THE PICKERS IN A STRAWBERRY-PATCH.

'Tis a real pleasure to see bees coming and going on their errands all day long. Besides, we are once in a while treated to a "circus" gratis, as was the case in 1887. I had 23 strawberry-pickers who were much interested in seeing a swarm of vicious hybrids on the war-path. To make a long story short, the bees cleaned out the ranch, and the whole population in the vicinity were compelled to "hunt their holes" without the dignity or ceremony of leave-taking. The recollection of the scene is still green in my memory; and it is too ludicrous to be easily forgotten. E. D. COX.

Marquette, Mich., Feb. 8.

Friend C., if your bees should prove to be an annoyance and a nuisance to people in your neighborhood, I am afraid the memory would follow me in another way than on the ludicrous side. I would look out that this does not happen very often, or there may be talk among your people about banishing bees and bee-keepers, that we have heard about in connection with the Bee-keepers' Union.

AT WHAT TEMPERATURE BEES MAY FLY.

At twelve to-day it was clear, with a cold breeze from the west. It had been cloudy nearly all the forenoon. On going to my bee-yard I found all my bees flying furiously except three swarms. I have a thermometer hanging on the east side of a small round post, twenty feet south of my house. The

sun shone on it. It stood at just 40°, and got no higher that day. They flew till after three, when it stood at 36°—4° above freezing. It froze in the shade all day. My yard slopes to the northwest, so the wind struck it fair. My thermometer is a good cheap metal one. It hangs 10 feet from the first hive. So you see you can't tell at what degree they will fly. My bees are nice Italians, from Root's and Doolittle's queens, in chaff and Simplicity hives, shaded with grapevines. Strange, but the bees in chaff hives commence flying first this winter; usually the opposite of this has been true.

Harpersfield, O., Jan. 28.

DANIEL BISHOP.

Friend B., you can not tell what the temperature is when the sun is shining. No doubt it was 40° in the shade; but had your thermometer been directly in the sun, it would have indicated 60 or 70°, I feel pretty sure. If you want to test the matter fairly, choose a still cloudy day.

REPORTS ENCOURAGING.

25 CENTS PER POUND FOR 4000 POUNDS OF HONEY.

I sold all my honey at retail in the Norristown market, at 25 cents per pound, just as it came off the hives, all in combs, one and two pound boxes, and about 200 pounds in five-pound boxes. I got about 4000 pounds of honey. J. W. SWARTLEY.

Norristown, Pa., Feb. 7.

NEW HONEY.

To-day I replaced my best hive on the scales, from which it was removed on the 4th of December. It then weighed 76½ lbs. The present weight is 80 lbs. Some other hives would have made a better record still, if they had been weighed. The season is very forward. Dewberries are as large as a shirt-button, but not ripe yet. H. FITZ HART.

Avery, La., Feb. 4, 1890.

NO WINTER IN NORTHERN ARKANSAS.

Thus far we have had no winter. Bees have been gathering pollen since Dec. 15. They have brood in all stages, and are in good condition; but I suspect springing them will be where the trouble will come. GLEANINGS and the *American Bee Journal* come regularly, and are prized highly by all who can afford to take the two. R. H. GUTHRIE.

Powhatan, Ark., Feb. 10.

3500 LBS. OF HONEY FROM 33 COLONIES; CHUNK HONEY.

We started last spring with 33 colonies, and increased to 68. We took 3500 lbs. of honey, both extracted and comb, all put up in jars and pails. I believe you call it chunk honey. It was nearly all sold before cool weather, at 10 cents a pound. I don't use any sections. I think I can manage better against swarming with brood-frames when they raise brood in the upper story. I take it out and put it into a nucleus, and they get discouraged after two or three times taking out. The most of our colonies swarmed only once, and soon did not swarm at all. A. R. DIOKE.

Hettick, Ill., Feb. 4.

Friend D., you say you got 10 cents a pound for your chunk honey, and also that you do not use sections. Now, I think you are making a mistake. Had your honey been put into nice sections, and put on the market in your neat cases, it would have

brought 15 or 18 cents. In fact, we paid 15 cents at wholesale during the past season for nice honey in sections. Honey that is broken out, or that can not be used otherwise, we get rid of in the way you mention, at from 10 to 12 cents a pound.

plant gets, the more honey it seems to yield, and the quality improves too. C. E. BARBER.

Langford, Col., Feb. 4, 1890.

NOTES AND QUERIES.

We solicit for this department short items and questions of a practical nature; but all QUESTIONS, if accompanied by other matter, must be put upon a SEPARATE slip of paper with name and address.

JAPANESE AHEAD FOR GRAIN AND HONEY.

Japanese has yielded splendidly with us this season, and for honey it is just as good if not better than the silverhull or brown. It averaged over 52 bushels to the acre. A. A. GENTER.

Springfield Center, N. Y., Feb. 1.

INDICATION OF AGE IN QUEENS.

How can you tell the age of your queens?

St. Anthony, Ia., Jan. 30.

W. R. HASLET.

[The experienced bee-keeper will tell an old queen by her looks pretty accurately. The difference, while not quite as apparent as in the human family, is plainly to be seen in much the same way. An old queen gets small in size, more or less doubled up, and in her movements seems to be decrepit and feeble. Her wings, the luster of the covering of her body, her feet and limbs, all exhibit indications of age. Some bee-keepers indicate the age of a queen by the manner of clipping the wings.]

UNIFORM TEMPERATURE IN CELLAR.

Thermometer outside, 50° above zero, eight o'clock this morning. It has been thawing, and is misty and muddy. Thermometer in my bee-cellar registers 48 above zero. I have not watched it this winter; but from the cellar this side of it, it probably has not varied more than two or three degrees one way or the other. V. W. KEENEY.

Shirland, Ill., Feb. 4, 1890.

THE NORTH VS. THE SOUTH FOR HONEY.

Please let me know if bee culture succeeds as well in the South as in the North, especially East Tennessee, Northern Alabama, or Western Carolinas.

W. D. TABLER.

Trilla, Ill., Feb. 10.

[Bee culture can be carried on as successfully, and perhaps more so, in the South, because there are no serious winter troubles to contend with; but the honey of the North, as a general rule, is of a finer quality, and, of course, commands a higher price.]

WHICH WAY SHALL THE ENTRANCES FACE?

Does it make any difference whether hives are faced south or west? I have mine faced west.

Hegins, Pa., Feb. 8.

J. H. DUNKELBERGER.

[It does not make any real difference. We have our hives facing all points of the compass. We prefer, usually, to have the entrance face the east, so that the bees may have the benefit of the morning sun, providing that bees may be able to identify their homes without confusion. See Introduction to A B C.]

THOUSANDS OF ACRES OF HONEY-BEARING ALFALFA.

Bees are taking a boom here now. We have alfalfa here by the thousands of acres — that is, there are several places in three counties here where the bees could reach a thousand acres in a two-mile flight, and on one of these big farms the honey-flow lasts from June till September, almost the same one day as another; and the older the

OUR QUESTION-BOX,

With Replies from our best Authorities on Bees.

All queries sent in for this department should be briefly stated, and free from any possible ambiguity. The question or questions should be written upon a separate slip of paper, and marked, "For Our Question-Box."

QUESTION 155.—*In your opinion, is a single-walled hive made of three-inch stuff, dovetailed at the corners, practicable when the cover and bottom-board are made of one-inch lumber? If not, what would be the objections?*

Yes.

Michigan. C.

A. J. COOK.

I should say it would be a bungling affair.

Ohio. N. W.

H. R. BOARDMAN.

I never used any thing thicker than $\frac{3}{4}$, hence I can't say.

Louisiana. E. C.

P. L. VIALLO.

I don't know. I never had such a hive, neither do I want one.

Vermont. N. W.

A. E. MANUM.

We prefer a $\frac{3}{4}$ -inch wall all around, as we can protect it in winter without having any incumbrance in summer.

Illinois. N. W.

DADANT & SON.

Yes, and it is "practicable" to plow with a stick; but what is the use, when there is a better way?

Ohio. N. W.

A. B. MASON.

Yes. I should prefer it to half-inch for this climate. Why not have the bottom and top as thick? and wouldn't a straw hive be lighter and better?

New York. C.

P. H. ELWOOD.

I think such a hive would be undesirable; $\frac{3}{4}$ lumber is as thick as is required. Such hives would be too heavy. I regard it very essential that hives be as light and easy to handle as possible.

Connecticut. S. W.

L. C. ROOT.

Such a hive would be heavy and clumsy, and no better than one of inch lumber, to exclude cold; that is, with an open entrance and a one-inch bottom.

Illinois.

MRS. L. HARRISON.

I don't think a hive made of three-inch lumber would be enough better to offset the great weight of the hive. I would rather use inch lumber and chaff stuffing.

Wisconsin. S. W.

E. FRANCE.

I never saw hives made of such thick lumber. I should think they would be too heavy and cumbersome, and a useless waste of material, and no better than those made of inch lumber.

Wisconsin. S. W.

S. I. FREEBORN.

In my opinion, no. Because size, weight, and cost of hive would be increased without corresponding benefits. Whatever advantages such a hive might possess can be secured easier and in a greater measure by the use of double-walled hives packed with suitable material.

Cuba.

O. O. POPPLETON.

1. I should prefer it made of $\frac{3}{4}$ lumber, with packing space of 3 inches between outer and inner case.
2. Too much lumber and too little protection.

New York. C.

G. M. DOOLITTLE.

Why, yes, I suppose it is practicable, but I doubt if a three-inch wall would be any better than a one-inch. Still, it might be, but it would take no little experimenting to settle the matter.

Illinois. N.

C. C. MILLER.

We should object to any style of hive being made of three-inch stuff, as the joints will be sure to open in time. I don't see that it makes much difference about the top and bottom board. Come to reconsider the question again, we don't see what the fellow is driving at, any way.

New York. E.

RAMBLER.

I should object to such a hive at all seasons, on account of the increased expense, weight, and bulk. It would be but very little better, for wintering outdoors without outside protection, than a hive with sides of $\frac{3}{4}$ stuff. I should not want to winter bees in such hives without additional protection; and that given, I can see no advantage whatever in their use.

Illinois. N. C.

J. A. GREEN.

No, sir; you will be sorry if you ever make thick-walled hives. We tried that on quite an extensive scale. We have also tried double-walled hives, and don't want any of them. Make the sides $\frac{3}{4}$ inch, your ends $\frac{3}{4}$ inch, and your covers and bottoms $\frac{3}{4}$ inch; then your hive will be light, and it will not warp nor go to pieces as quick as your thicker material. Always have your packing-boxes dark-colored for winter, and your hives light-colored for summer.

Michigan. S. W.

JAMES HEDDON.

If lumber is cheap, and you can afford so much of it, all right. Why not have the covers and bottoms of three-inch plank too? One feels better satisfied, after having "gone the whole hog," than when stopping half way. A chaff-packed wall of the same thickness is lighter and better, except the important matter of durability. The most common objection would be, "Too heavy to lug around." In my apiary practice, hives are carried around but little; and I think I could tolerate the plank hive.

Ohio. N. W.

E. E. HASTY.

Why should the sides of a hive be made of three-inch stuff when the bottom is one inch? I can convince anybody that hives made of inch stuff will winter bees as well, if not better, in this latitude, than the best chaff hive made. Cause: A chaff hive is cellar-like, and its temperature is not much affected by the outside atmosphere all winter, while the mild rays of the sun in January, February, and March, have a most beneficial effect on the sides of a single-walled bee-hive.

Ohio. S. W.

C. F. MUTH.

Ernest was greatly chagrined to discover, after the answers all came in, that the question reads "three-inch stuff" where it should have been "*three-eighths* stuff." In order to test single hives out of doors, we are now wintering several made only $\frac{3}{8}$ inch. We have decided, however, to print the replies, inasmuch as plank hives have been many times suggested and several times put into actual use. They are a little better, so far as protection is concerned, than thin

hives, but not enough to recommend them, and not nearly as good as a porous wall made of rather narrow strips of thin wood, with chaff or some similar porous material between. Our older readers will remember my experiments years ago with the hoop hive. This hive was made of thin narrow stuff so as to be something like a corn-crib. The slats were arranged, however, so as to shed rain. Bees wintered in them, and stored honey; but the sections near the outside wall could be worked in only when the weather was exceedingly warm. On this account, hives made of inch stuff gave better results.

MYSELF AND MY NEIGHBORS.

And the devil said unto him, If thou art the Son of God, command this stone that it be made bread. —LUKE 4:3.

WHILE in Salt Lake City, one young friend who keeps bees, learning I was in the place, telephoned all the hotels to find out my whereabouts. After he found me I proposed we should go around and gather up the bee-friends, so we could have a little visit all together. Of course, A. I. Root would have something to say to these friends before leaving, that was not directly connected with bee culture. I have told of my visit to friend Woodmansee's, who lived a little outside of the suburbs. Street-cars, however, ran within perhaps a quarter of a mile of his place. On our way home, at the terminus of the street-car line, while waiting until it should be time for the car to start, we were entertained by some boys who had gotten up a sort of amateur string-band. They had a violin, banjo, guitar, triangles, and cymbals. I am fond of music, and the performance of these boys out in the open air on that December night filled me with thanksgiving, and, I hope, with praise. I thanked the boys for their entertainment while we were waiting, and expressed my pleasure to the friends who were with me. The street-car conductor was one of our number. He was very affable and pleasant, but smiled with a look that seemed to me somewhat savoring of irony or sarcasm, as he gave us a little speech something like this:

"Boys," said he, "the music was very nice, and music is a good thing, especially when the performers are experts. But, my friends, let me tell you there is no music in this world so entrancing and so satisfying as the music of golden coins as they rattle in *your own* pocket." And then he patted the place where his pocket was, evidently pleased at his pleasantry. I ventured to demure a little, but he replied again:

"There is no getting around it, boys. You live until you are as old as I am, and go through the world and try all it has to offer, and you will decide with me, sooner or later, that the chink of gold throws every thing else into the shade."

At our recent Ohio Convention, a fine-looking man, and one I should judge of much ability, came up and shook hands; but it was evident from his manner that he

was not quite pleased with something. He said he had been a bee-keeper a good many years, and had taken GLEANINGS, and that he would like to say a little something to the members of the convention on the subject of bee-keeping before we adjourned. The opportunity was given him, and he spoke. Nineteen years before that time he attended one of the first bee-keepers' conventions, held in Cleveland. Father Quinby was present, Prof. Cook, myself, and quite a good number of others. R. C. Otis was there with an American hive. Friend Hosmer, of Minnesota, was also present, and told his wonderful stories, and bantered the convention to "put up money," if they dared, against what he could do during the ensuing season*. There was a good deal of excitement, and the friend in question went home crazy on bee culture. He had followed it more or less during the whole nineteen years. But his golden dreams had not been realized. He was rather embittered toward editors and others who urged people to go into bee culture with the hope of getting rich. He also had some pretty keen and scathing remarks that seemed to be directed toward supply-dealers; but perhaps he did not intend it so. There is much truth in the point he brought out, and our worthy president, friend Boardman, in his address, summed up at length a good many facts in the same line. A good many of us have been disappointed in bee-keeping. During these nineteen years, real facts have seemed to indicate that one must work for his money, and take his share of disaster and loss in apiculture as well as in all other industries. Before the convention closed, however, this friend came to me. During the convention I had replied briefly to his charges, and perhaps he felt a little more friendly toward us all; but notwithstanding, he was not quite ready to give up his position. During our discussions, one friend mentioned the delicious aroma, or perfume, from sweet clover where it grows to perfection along the roadsides. Others spoke of the perfume from the white and the red clovers, alfalfa, apple-blossoms, etc. Well, this friend came to me during the recess, and said:

"Friend Root, there is one perfume that none of you mentioned; and it surpasses that from any honey-plant that ever grew. It is the perfume of a one-dollar bill."

To prove this he pulled one from his pocket. It was a crisp new one; and as he waved it in his hand it rattled suggestively. Now, I am not certain whether he said that the said perfume was dearer to me, or whether he simply included all bee-men. But I think, that perhaps my face commenced to color just a little. But when he added, that, notwithstanding the faults and failings of GLEANINGS, he wished me to take the dollar to keep it going, I was ready to take him cordially by the hand and enjoy his joke, so characteristic of what he had been saying. Now, then, what do you think of the proposition of the street-car conduct-

or and the one of the bee-keeper? Just as I was shaking hands, and taking leave of the friends in Salt Lake City, a fine-looking young fellow who had been with us that evening said to me, "Bro. Root, that street-car conductor hit my case exactly. The greatest trouble I have in this world is a lack of money. I have never had enough of it yet, and I can not get away from the idea that money is of more importance than any thing else that this world has to offer. I know what you think about these things, but I thought I should like to tell you just where my temptation lies, and where my trials and difficulties center."

The above may not have been exactly his words, but they express the sentiment as nearly as I can remember it. It was time for my train to start, if I remember correctly, so I did not have time to say very much with him about it. But I have often thought of it. My heart goes out in sympathy and love toward him. He was a nice-looking boy—young, bright, handsome, and good-natured looking; but there seemed to be a vein of sadness over his otherwise fair exterior, and I presume he said truthfully, when he told me where his trouble lay. May Christ Jesus be with him, be near him, and teach him that there are better things—oh! far, far better things—in this world than the "chink of gold in your own pocket," and that there are more beautiful perfumes to be found than those that come from the sight and rattle of crisp new dollar bills. Some of you may say that I do not know about these things. I am afraid that some of you think that dollar bills are so plentiful around me that I do not know what it is to be hard pressed for even one single dollar. Yes, I do know, dear friends. I have often been censured, and am still, for my economy. All of you know, where I have been among you, that I am by no means wasteful. I do not know but that some of my good friends who are well to do in this world are often a little pained to see me dressed so plainly. But I would far rather it would be so, than that any should be troubled because I dress so much better than they do. May God help me to remember those who are struggling with poverty and a scarcity of money. Perhaps some of you may wonder what connection our text has with the subject in question. The connection is this, dear friends: The Savior of the world, who had all things at his command, when he came among us to live a human life refused and at once rejected the idea of performing a miracle that he might supply himself with *needful food*. He gave bread to five thousand when they were destitute, and produced the food by a miracle; but during the whole record of his public life, full of miracles daily and perhaps hourly, no one is recorded where it was performed for *self*. He took his chances with the rest of humanity. Yes, more than that, he took his chances with that little band of followers. When they were hungry, thirsty, and fatigued, he was hungry, thirsty, and fatigued also. No one of them could ever say that he, because he was God, had food or drink or rest when they did not. In his anxiety

*I need hardly say, nobody ever heard from Hosmer afterward as a bee-keeper. His apiary became run down and neglected.

to do the will of the Father he often went hungry and weary. He went away into the wilderness to get seclusion and rest from his hard physical labor. But even there they followed him. He did not get impatient, nor did he turn them away. When weary in mind and body he still ministered unto them, and performed miracles when we know that it taxed his strength sorely, for he has told us so. Jesus was self-sacrificing. When we crave money in the way I have indicated, it is mostly a selfish craving. I do not suppose that the street-car conductor had in mind at all—in fact, I doubt if he ever *dreamed* of such a thing as using this gold that chinked in his pocket, for the relief of his fellow-men. I judged from his looks that a great part of it would go toward giving indulgence to a sensual, selfish, and wicked appetite. Oh what a difference! The thoughts of one were all selfish: the other, no self at all. Jesus possessed the whole earth, in one sense, and in another he had absolutely nothing. We do not know that he ever had a cent of money that he could call his own. The possessions of the little band were carried in a bag by Judas. While Jesus had at his command legions of angels, he passed through the world helpless and alone. His little band of followers were, of course, ready to do his bidding; but even they, when his enemies came, fled in dismay.

Another point: Does the one who feels that money is the supreme thing to labor for in this world succeed in getting the satisfaction he expects? I am pretty sure that, as a rule, he does not. Does he succeed in getting riches? Again I am sure he is, usually speaking, disappointed. That street-car conductor did not have much gold in his pocket to jingle; and from what experience I have had in business, I think it doubtful whether he ever does have. He will be disappointed in the enjoyment he expects, and he will be disappointed in getting money; and I hardly need intimate that he will utterly fail in getting that peace and happiness that *money* can not buy. The man who is constantly greedy for something to put into his *own* pocket, seldom becomes rich; and still more rarely does he succeed in becoming a valuable business man.

Now, friends, I need not tell you there is a large class of people in our land who seem to be embittered against those who have money. There has been a great conflict between labor and capital. I hope and trust and pray that a better spirit is coming. Like the false statements in regard to the adulteration of honey, I feel certain that there have been false statements and false charges against the capitalists. A certain class of farmers have been hard and uncharitable toward the men who handle their grain and pay them for it. I agree, that there has been great wrong. The gamblers in grain, I regard as the worst kind of gamblers in the world. I do not believe in a lordly aristocracy, as you well know; and yet I feel sure that many of us have been complaining of evil where none existed. Nearly all the papers seem to be bitter against trusts. They speak of the men who have them in

charge as only a sort of legal highway robbers. This may be true in some cases, but I am sure that it is not in others. Last season I watched and read a good deal on what has been called the "twine trust." Now, I feel pretty certain that no such thing existed. Perhaps the men who had twine, who had been sharp enough to purchase largely, did contrive to make extraordinary profits. This happens in all kinds of business. But I do not believe there was a concerted action among the twine-sellers. Even supposing the price of certain kinds of articles does run up high; isn't there a good side as well as a bad side to it? I do not know who raises the raw material for the twine, and I do not know much about the people who manufacture it into twine; but this sudden demand and high price must certainly have benefited the producers. Just look here a minute at something closer still to our homes. A few days ago I found the boys had raised the price of onions from 20 cents to 40 cents a peck; and by way of explanation they said that onions had gone "away up." I looked at the quotations, and, sure enough, they were \$3.50 a barrel. Said I:

"Why, what should make them run away up at this time of the year?"

"Oh! they say," said Mr. Weed, "that they have started a trust, or corner, on onions; that somebody is buying up all they can find at big prices, so as to get a corner on the market and make a big thing out of it."

Just think of it! Poor people are obliged to pay this awful price for onions, just because some wealthy speculator has bought them all up and won't let the people have any unless they come to his terms. If they are going to make a corner on onions, and charge such extortionate prices, what won't they get hold of next? That is one side. Now let us look at the other.

In another part of our town a neighbor raises garden-stuff as we do. One year ago he put 150 bushels of onions on his manure-heap, because no one would give him a cent for them. A few days ago he came and bought a lot of garden-seeds, looking quite happy and enthusiastic about gardening. He had sold all his onions at a big price, and had received money enough for them so he could buy his seeds and go on with his chosen industry, full of faith and thanksgiving. As he is a Christian man it was thanksgiving to God. But, dear friends, ought he not to be thankful for this *trust* (if there was one) that gave him such a lift in his business? Why, to be sure he should. Whenever any thing becomes scarce, so that the product is bought up at good prices, why, it helps people. And this state of affairs is going on every day. Our farming friends lament terribly when wheat goes down to 70 cents a bushel. They say that farming does not pay, and that the farmer is the slave of everybody else; and some of them say that all the world is holding the farmer's nose on the grindstone; and when he gets mad, and says he won't stand it, the great world just laughs and feels tickled about it. Suppose, however, it is butter that we are talking about, and that, instead

of going down, it goes *up*. Then the townspeople who are obliged to buy their butter and milk talk about the greediness of farmers, and of their want of conscience and scruple, and that they would just as soon "see a body starve" as not. Now, these speeches are all uncharitable—they are all wrong. They are not Christlike. They are not neighborly. And, oh how far, how very far, they are from the disposition shown in our little text! The Savior, who had been forty days without food, and was suffering from hunger, turned away from Satan and his suggestion at once. "Get thee hence," he said, a little afterward. "I am in the hands of the great Father. He has provided thus far, and I am going to wait on him now. If it is his will that I should bear hunger still longer, his will, not mine, be done. For this cause came I into the world, to suffer and to bear the burdens of humanity, whom I love."

Yesterday a friend wrote us, saying he had asked us repeatedly for a price list. The *last* time, he ordered a sample of our sections, and asked again for a price list. The sample of sections came promptly, but no price list. He thought the clerks were careless, and had neglected to send one. They did send it, however, in the same mail the section went in; but as he did not get it, he got provoked and sent his order to friend Falconer. I wrote back to him, saying that we were very sorry to lose his order on account of the price list; but inasmuch as what was our loss was friend F.'s *gain*, I did not feel so very bad about it after all; and just as it occurred to me to put it in this way I felt happy about it. It is true, we lost quite a number of dollars—may be twenty or thirty crisp new dollar bills; but I wish to say to the friend who talked about the perfume of the dollar bills, that I enjoyed the "perfume" of the thought that friend Falconer had the order, even if we didn't, more than that of *many* crisp dollar bills. And this reminds me that our boys have, during the few past months (almost without my knowing about it), been establishing friendly relations with supply-dealers all over the land, to a greater extent than has ever been done before. We have not had any sleighing here, and, in fact, we have had nothing but deep mud for several months, and therefore no basswood has been brought in. When they discovered that the supply of sections was going to run short, they wrote to nearly all the supply-dealers in the United States. In comparing notes we found that many of them were in much the same situation as we are. The boys suggested, therefore, that we agree on uniform prices, and not injure each other by cutting them down to a price that would not pay the cost of production, especially while the supply was going to be limited. Some rather objected to any agreement in regard to prices. Sooner or later, however, I believe all agreed. And now comes the pleasant part to me. If somebody in York State wants sections, he does not want to pay freight all the way from Medina. We hope to arrange with some one there to fill the order; the same way with friend Jen-

kins, in the South, with Nysewander in Iowa, and with some friend in Wisconsin. How about the quality of all these makes? Well, friends, we have had samples from almost all of them. Not only single samples, but samples of thousands. And it is pleasant to notice that each one seems to be doing a little better than he ever did before. In fact, we at the Home of the Honey-bees will be in danger of getting behind if we do not look out. Now, we want to do good work, friends—as good as anybody else does; but I am sure I tell the truth when I say that it does not make me feel bad one bit to have the bee-friends say they get their supplies from some other supply-dealer. The thought to me that there is now no rivalry or jealousy among us is worth a *thousand* times more than the rustle of dollar bills. Do you ask if I do not believe in the old adage, that competition is the life of business? Yes, I do believe it. But I want to see the competition a kind and friendly one. I want to see on both sides the spirit of "in honor preferring one another," instead of the old-fashioned way of saying, "I make the best sections in the world, and at prices lower than any other live man *dare* mention." I do not know whether any supply-dealer advertises like that nowadays or not. I trust not. Dear friends, the world is wide enough. There is plenty to do, and plenty of *money* for us if we are faithful and honest and true. Let us advertise our sections *with all our might* by giving every customer nice work at reasonable prices, by promptness and fairness in dealing. Instead of wasting our money in spread-eagle advertisements, such as I have given above, get up early and work late. Watch carefully, answer every letter promptly. Do not overlook a single request. Answer courteously and good-naturedly even questions that seem to be unnecessary. Above all, do *not* be greedy. If the spirit gets possession of your heart, of wanting to rise above your neighbors or competitors, put it away. Say, "Get thee hence, Satan." Do not envy the *rich*. Do not, I pray you, fall into the terrible fault of *worshipping* money. It is pleasant to have money in the pocket; but the pleasantest use I have ever made of money was to pay debts with it. I love to have some in my pocket, to buy things of farmers. In fact, I enjoy this so much that I am afraid I sometimes pay more than I ought to. The boys say that I encourage farmers in running after me, because I always give them more than their things are worth. Well, I am sure that this is a better way than not paying them enough. Shall we become impoverished by so doing? Surely not—that is, within the bounds of reason. No man becomes poor by being fair and honest. Much has been said of the value of a good name; but, dear friends, I am sure that the half has never been told. The aroma, or "perfume," or the "music" in one's ear (express it as you choose) of feeling that he has won the confidence of his fellow-men, and established a good name, is worth to me, oh! ever so much more than the sound of the chink of gold or the rustle of paper bills. A few days ago a lady who is a book

agent came to our place of business, and, not finding me, she went over to the house to see my wife. My friends told her that I would not buy the book; but she declared that she was going to get me to *look at it* and give it a recommendation. She said she could sell a great many copies if she could just get A. I. Root's name attached to a recommendation of the book. Now, friends, why should *my* name help sell the book? I think she said she had the names of the ministers, but several people would not invest unless I *also* would recommend it. Now, please do not think I am boasting. I am only pointing a moral. The reason why my opinion was wanted and valued was because I positively refuse to recommend things in that way.* There are only a few books and papers that we recommend in GLEANINGS. Why? Because I know how much you value my opinion; and I feel as if it were almost a sacred matter to tell you what to buy. This good brother who spoke about the perfume of the dollar bill said to me, "Mr. Root, you can not sell me any of your T supers or perforated zinc or bee-escapes, nor any of that sort of traps. There has been too much of this sort of business of advising us to buy this thing and that thing; and as soon as we have put in all our hard earnings, then we are told to throw away these traps we have just bought, and buy the next thing, which is a good deal better."

There is a moral here. While I think he put it too strongly, I am sure that we who publish journals should be careful. It is a serious matter to lumber our homes and our apiaries with things that may, after a little time, be discarded as useless for the purpose for which they were recommended. Let us strive to help our patrons and our neighbors, and not disgust them with something that was devised thoughtlessly or with too much haste. Our boys here are perhaps somewhat like other boys, fond of new things, and many times enthusiastic over something that has just made its appearance. I am trying, however, to induce them to go slow, and to be careful in what they recommend; and they agree with me in the spirit of the matter, for they too are striving to follow in the footsteps of Christ Jesus, who pleased not himself. And please remember the thought that comes so closely in line with that expressed in our text, when he was suffering his death-agonies on the cross; for at this time he was only a poor weak human being like ourselves—weak so far as physical suffering is concerned, for he suffered just as would you and I under such circumstances; and then those bitter wicked men, with their hearts full of hatred, said to him, between his groans of anguish, "Others he saved; himself he can not save." And, dear friends, in one sense it was true. He could *not* save himself and come down from the cross, as they challenged him to do, and be *consistent* with the life of self-sacrifice he started out

to live, and finished so completely by his death on the cross. He died for others; and, dear friends, if you wish to get a glimpse of that happiness and peace, that enjoyment, that rapture, that is beyond the perfume of flowers, the charms of music, or any thing else that this world of ours can furnish, take up *your* cross and live for *others*, even as he did. Love money, if you choose; work hard to get it; but when it is yours, and in your pocket, instead of using it for the gratification of selfish appetites, learn to use it right, oh I beg of you, and beseech you! for the good of others. Make *others* happy, and you will find joy upon earth, and, when life is finished, heaven beyond.

GLEANINGS IN BEE CULTURE.

Published Semi-Monthly.

A. I. ROOT,
EDITOR AND PUBLISHER,
MEDINA, OHIO.

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For Clubbing Rates, See First Page of Reading Matter.

MEDINA, MAR. 1, 1890.

Lay not up for yourselves treasures upon earth, where moth and rust doth corrupt, and where thieves break through and steal.—MATT. 6:19.

MORE NAMES.

SINCE our last issue we have received the following additional names of those whose faces appear in the picture of the Brantford Convention:

15. Isaac Lundy; 47. Mr. Ballachery; 73. B. Jackson.

THE AMERICAN APICULTURIST.

THIS journal for 1890 celebrates the new year in a new style of cover and make-up. One special feature, and one that will be appreciated by its readers, is the department of Short Items, conducted by E. L. Pratt, M. A. Kelley, Dr. Tinker, and others. We congratulate friend Alley on the improvements.

"NOTHING PATENTED."

In the last issue of the *Canadian Bee Journal* we find the following from "Observer":

I read all the advertisements in the journals, and I have noticed that the words "nothing patented" are left out of the last ones inserted by our friend A. I. Root. Is this to be taken as evidence that A. I. is receding from the strong position he has always taken regarding patents?

No, dear friends, A. I. Root has not receded a single inch. In view, however, of the fact that some of the bee-friends have felt a little hurt because of my words, "nothing patented," I decided to leave it off, on the principle that, "if meat maketh my brother to offend, I will eat no meat," etc. We have no patent on anything we manufacture, and probably never shall have. We are doing well enough as it is.

TWO BEE-PUBLICATIONS CONSOLIDATED.

THE *British Bee Journal*, a weekly, and the *Bee-Keepers' Record*, a monthly, celebrate the new year by consolidating with each other. The former is published as a 16-page weekly, the size of the pages

*Book-agents often urge people to pay several dollars for a book when the money *ought* to be used for debts long unpaid, for the very clothes they wear.

being about the same as those of GLEANINGS. It is printed on better paper than formerly, and altogether the change is an improvement. The *Bee-Keepers' Record* is a 16-page monthly, with a tinted cover. Both journals are edited by Thomas William Cowan and W. Broughton Carr. The former has more direct supervision of the weekly, and the latter of the monthly. The price of the *Bee-Keepers' Record* is 2 pence, and of the *British Bee Journal* one penny each, or respectively 50 cents and \$1.00 per annum.

A NEW DEPARTURE IN THE CANADIAN BEE JOURNAL.

THE publishers of this periodical, on and after March 1, propose to divide the *Canadian Bee Journal* and *Poultry Weekly* into two separate publications; namely, the *Canadian Bee Journal*, and the *Canadian Poultry Journal*. The former will be issued on the 1st and 15th of each month, and the latter in the intervening weeks—on the 8th and 23d. The prices of the separate publications will be 75 cts. each per annum. This change is made to accommodate those who desire a distinctive bee-journal and a distinctive poultry-journal, and both will be published semi-monthly. On the whole, we think the change will be a good one, and we wish our Canadian brethren all manner of success.

THICK TOP-BARS.

WE have received such a lot of correspondence on the value of thick top-bars as a preventive of brace-combs that we are unable to make use of all of it. In fact, there are some very valuable communications on the subject that we shall be obliged to reject. We deem it best that the discussion come to an end for the present. Perhaps we should say, that, among the very large number of testimonials we have received—a majority of them unpublished for want of space—there has been scarcely one but that goes to prove most conclusively that thick top-bars are going to do away with many if not all of the troubles of brace-combs. We have had reports of top-bars only $\frac{3}{8}$ inch square, but they accomplished the result only imperfectly. But where the top-bars have been fully $\frac{1}{2}$ inch wide, and spaced about $\frac{1}{8}$ apart, there have been no brace-combs.

INGERSOLL AND TOBACCO.

I AM exceedingly surprised to notice by the New York *World* of Feb. 21, that Col. Ingersoll defends tobacco, and even delivered an address at the close of the Cigar Manufacturers' Convention at Delmonico's. In his address he used these words:

I use tobacco now, and defend its use against the moral advice of parsons and the physical advice of medical men.

We can readily understand how he may excuse himself on the ground that he differs in opinion with the clergy; but we can not understand how he can offer any excuse for rejecting or defying the almost unanimous decision of the medical fraternity. No better evidence of the low moral tone of the whole tobacco business can be produced, than that it employs Ingersoll to defend it. To a careful observer, however, his whole speech on the above occasion was one of the finest pieces of irony and sarcasm ever read.

MRS. COTTON'S CIRCULAR FOR 1890.

THIS is quite an improvement over any circular and price list that has been sent out by Mrs. Cotton in any former year. There are no criticisms of the

bee-journals or writers on bee culture. In fact, she does not find fault with anybody, so far as I can see. The things she offers for sale are, however, *away above* the prices usually charged for bees, hives, feeders, instruction-books, etc. She still offers drawings and illustrations for making her hive, for \$4.00. She insists on feeding largely whenever the bees are not gathering honey, in order to induce them to put all the honey they gather into surplus boxes as far as possible; and there is no caution, that I can see, against feeding bees sugar, and calling it honey. She also says the feed used in her system costs only about 4 cents a pound. This, of course, is possible, where half or more of the feed is water. Equal quantities by weight of water and sugar *does* make a very good feed for stimulative feeding; yet it is hardly fair to say that the feed costs only 4 cents a pound, and that the honey brings four times that, or more. She says, in plain print, "If you do not receive just what you order, write me; for I warrant every thing to reach the purchaser, and to be just as represented in this circular." This is promising a good deal, and I believe Mrs. Cotton holds to it much better than she did some years ago. I have taken this amount of space to notice Mrs. Cotton's circular, because a number of inquiries are sent in every year asking my opinion in regard to her "system" of bee culture.

FALSE STATEMENTS IN REGARD TO THE ADULTERATION OF CONFECTIONERY.

IT seems that it is not only in the honey business, but in the confectionery business as well, that sensational stories of a damaging character have been copied in regard to the fraud and corruption of the present century. All men are *not* cheats and liars; and it strikes me that the ones who maintain that they are, are the very chaps, and almost the only ones, who need putting in jail. The following was written by the editor of the *New York Confectioner* to the *Scientific American*:

In the editorial notes in your issue of January 18 you refer to the use of terra alba in confectionery, and state that the Board of Trade Journal of Portland, Me., is authority for the assertion that 6000 tons of terra alba were recently imported through this port for use in confectionery. I have before me the letter of the editor of that publication, in which he affirms that he had no authority for the statement, but that the article was clipped from some other publication, and the credit left off in the make-up by mistake. I have been unable to trace the statement about the terra alba to any reliable source, or to find any truth in it.

The other statement in your note, about the lozenges shipped to St. Louis over the South Shore Railroad, emanated from the National Druggist, and I have before me the letter of the editor of that publication saying that the affair occurred five or six years ago, before the National Confectioners' Association was organized.

Believing the *Scientific American* to be a fair and honorable publication, that would not willingly do injury to an honorable calling, I write so that you may make such reparation as would be proper, to counteract the harm done by the publication in your widely circulated journal; for the circulation of such reports is an injury to the trade.

There is no terra alba used now by any reputable manufacturer of confectionery. The National Confectioners' Association "offers a reward of one hundred dollars for evidence that will enable it to convict any person of adulterating confectionery with poisonous or injurious substances, the association assuming the cost and responsibility of prosecuting the offender." The publisher of the *New York Confectioner* pledges himself to pay over an additional \$100 to the person who furnishes him with the evidence that will enable the National Association to effect a conviction, and several large manufacturers each offer \$100 upon the same terms as the *Confectioner*.

HARRY J. SHELLMAN.

New York, Jan. 17, 1890.

To the above, the editor of the *Scientific American* replies as follows:

The above assurances that the adulteration of confectionery with terra alba has practically ceased are very gratifying, and we have much pleasure in placing them before our readers.

I confess that the above was a little surprise to me. I have for so many years heard that candy is generally adulterated with terra alba that I had come to sup-

pose it was a fact; and I hereby humbly beg pardon of our friends who make our candies. I am very glad indeed to know that it was *only* a newspaper slander.

"HANDLING BEES."

THIS is the title of a little pamphlet by L. L. Langstroth, revised by Dadant. In short, it is a chapter taken from Langstroth on the Honey-bee. The price charged is only 8 cts. It is a very good sample of the many good things from that standard work, published by Dadant & Son, Hamilton, Ill.

THE REPORT OF THE OHIO CONVENTION.

THIS will appear in our next issue. Perhaps we might remark right here, that this was one of the best conventions Ohio ever had. During some of the sessions there were from eighty to ninety beekeepers present. Dr. Mason said it compared very favorably in numbers and enthusiasm with the International held at Lansing.

THE BOHEMIAN-OAT BUSINESS REVIVED.

DIFFERENT individuals from Oneida Co., N. Y., write us that the Bohemian-oat business has revived in that locality; and not only are many going into it, but even good men strenuously insist that it is an honest and legitimate business, to buy and sell oats at \$15.00 a bushel that can be bought of seedsmen for less than a dollar a bushel. As York State is one of the most progressive States in the Union, and Oneida County (at least we supposed so) one of the most progressive counties, we are at a loss to understand how this can be. In our own State of Ohio, so many men were ruined, both spiritually and financially, by this scheme of Satan, that our State passed a law for the protection of those who gave notes under the influence of these smooth-tongued agents. Their plan is to get hold of somebody who has had bad luck, and tell him that farming does not pay, in the regular honest fashion. They tell him that the only way to get rich is by getting the start of others by sharp practices. Then they make it so plain that he can not possibly lose, under any circumstances, that the poor victim borrows money, may be by mortgaging his farm. Sometimes they have cheek enough to keep the thing going for a whole year—perhaps longer. But finally the men who have no real estate, no family connections (nor principle), "light out" and leave their comrades with debts and mortgages hanging over them, to take the consequences as best they can.

comes from Wisconsin, where the honey-flow is so abundant almost every year. Price of the seed will be as follows: By freight or express, with other goods, 18c. per lb.; \$2.00 per peck; \$3.90 per half-bushel; \$7.50 per bushel, bag included. One pound, by mail, 27 cents.

Present price of alsike, the next in value as a honey-producer, is 25c. per lb., postpaid. By express or freight, 15c. per lb.; \$1.90 per peck; \$3.60 per half-bushel; \$7.10 per bushel.

OUR NEW SEED CATALOGUE.

Our edition of this for the spring of 1890 is just out. It is not a very nice catalogue compared with many others, and it is so small there was not even room for pictures of the new vegetables; neither are the seeds which we offer *better*, probably, than those offered by many other seedsmen. It does, however, give the names of just a few of each variety, such as we have been best pleased with. Our seeds are probably as good as any, and our prices are quite low. We should be very glad to send it to any one who is interested.

KUMERLE LIMA BEANS.

Nobody seems to have succeeded in getting even a few for seed, during the unfavorable season of last summer, except ourselves, and we have now but little more than a pint. You remember we gave for the seed last year their weight in gold, or a little over 50 cts. a bean. Well, so many have been wanting one or two beans, just to try, that I find myself obliged to put some sort of price on them. If anybody cares to pay 25 cts. a bean for the few I have, they can have them. But I hope there will not be many who want them at that price. It is not settled yet that they will mature in this climate. Hadn't you better wait, friends, until we give them a good test during the coming season?

COMB FOUNDATION AND BEESWAX ADVANCED.

We are compelled again to advance the price of comb foundation, because of the advance in beeswax. This has been slowly increasing in price for two years past, with slight fluctuations. We have to pay now, on an average, 4 to 5c. per lb. more for wax than we did two years ago. We dislike to raise prices, and have been holding off, working on smaller margins, hoping wax would go no higher; but it is impossible longer to sustain catalogue prices. We will pay for average wax, delivered here, 24c. cash, 27 in trade, and the same will be sold at 30c. per lb. for average, and 35 for selected yellow. Price of all grades of comb foundation is advanced 5c. per pound, and the revised table is as follows, taking effect to-day:

Packed in neat boxes, with tissue paper between every two sheets.	Heavy brood 4 to 6 lb	Light brood 4 to 6 lb	Thin brood 4 to 6 lb	Extra thin 12 ft lb
1 to 10 lbs. per lb.....	45	48	55	65
10 " 25 " "	44	47	54	64
25 " 50 " "	43	46	53	63
50 " 100 " "	42	45	52	62
100 " 200 " "	41	44	51	61

SPECIAL NOTICES.

WANTED—SEED OF THE FIGWORT OR SIMPSON HONEY-PLANT.

Can anybody furnish us seed of the figwort or Simpson honey-plant? If so, please send sample, and say what you want for it.

PRICE OF JAPANESE BUCKWHEAT.

We are selling the new Japanese buckwheat, till further notice, as follows: Trial packet, 4 ounces, by mail, postpaid, 5c.; one pound, by mail, postpaid, 15c.; one peck, 35c.; ½ bushel, 60c.; bushel, \$1.00. These prices include bag to ship it in. Ten or more bushels, purchaser paying for bags, 75c.

WHITE DUTCH CLOVER SEED REDUCED.

We have secured over 20 bushels of very choice white-clover seed, at a price which makes it possible for us to sell it at ¾ of the old price. The seed

CONVENTION NOTICES.

The spring meeting of the Missouri State Bee-keepers' Association will be held at Marshall, Saline Co., Mo., on Wednesday and Thursday, April 16 and 17, 1890, in the county court-room. Reduced rates at hotel, for bee-keepers, have been secured. A cordial invitation is extended to bee-keepers everywhere to attend, and especially those of Missouri. Essays from prominent men are expected. J. W. Rouse, Sec'y.
Santa Fe, Mo.

The annual meeting of the Kent and Essex Bee-keepers' Association will be held on Tuesday, March 13, 1890, in Templars' Hall, Essex Center, Ont. G. C. Scott, Sec'y.
Chatham, Ont.

PRICE LISTS RECEIVED.

Since our last issue we have received price lists of queens, bees, and apian supplies in general, from the following parties, who will be glad to furnish them to applicants. Those marked with a star (*) also deal in fine poultry.

H. G. Frame, North Manchester, Ind.
R. E. Smith, Tilbury Center, Ontario.

TOBACCO COLUMN.

CONDITIONS UNDER WHICH WE GIVE SMOKERS TO PERSONS WHO STOP USING TOBACCO.

First, the candidate must be one of those who have given up tobacco in consequence of what he has seen and read in this department. Second, he promises to pay for the smoker should he ever resume the use of tobacco in any form, after receiving the smoker. Third, he must be a subscriber to GLEANINGS. Any subscriber may, however, have smokers sent to neighbors or personal acquaintances whom he has labored with on the matter of tobacco-using, providing he give us his pledge that, if the one who receives the smoker ever uses tobacco again, he (the subscriber) will pay for the smoker. The one who receives the smoker in this case need not be a subscriber to GLEANINGS, though we greatly prefer that he be one, because we think he would be strengthened by reading the testimonials from time to time in regard to this matter. The full name and address of every one who makes the promise must be furnished for publication.

TOBACCO AGAIN, BUT PAYS FOR THE SMOKER.

Three years ago I promised to quit the use of tobacco for a smoker. I did quit until a short time since. I have partly taken up the habit again. You will find inclosed \$1.00, which I think I owe you.

J. W. GANDY.

Stanton, Chilton Co., Ala., Dec. 23, 1889.

A GOOD FRIEND WHO DOES NOT PROPOSE TO GIVE UP TOBACCO FOR GOLD OR DIAMONDS.

Mr. Root:—I understand from the columns of your paper that you offer a smoker to any man who will give up the use of tobacco. Permit me to say, that, if your smoker were made of gold, and studded with diamonds, I should still prefer the pleasure of tobacco-smoking.

A. JUNOR.

Good Luck, Texas, Feb. 5.

Well, well, friend J., you are certainly strong in the faith, at least on one side of the question. All right. It is your privilege to hold fast to the tobacco, if you prefer; but, dear brother, are you sure that you want the boys and girls of the coming generation to follow you? Very likely you have children of your own; and whatever papa does, must, of course, be considered the proper thing to do. Do you want these little ones to follow in your footsteps? And another thing, dear brother: Would it be well if all the world were to put self and selfish enjoyments beyond every thing else, as you do? The use of tobacco must necessarily give pain and unhappiness to others about you, unless all the inhabitants, both women and children, as well as men, in that pretty town of yours named Good Luck, should go and do likewise. And would you, my friend, want to live where everybody uses tobacco? Perhaps you have not read our journal much. If you have you have certainly noticed that the use of tobacco kills both mind and body, with many; but even when the mind is failing, and the victim of the habit is forced to acknowledge it, the struggle is so great to give it up that he sometimes goes down to insanity and death rather than to undertake to fight the terrible battle. I thank you for your frank square way of expressing your views in regard to the matter; but, dear friend, I hope and pray that you may reconsider this position you have so vehemently taken.

Since the above was in type, our proof-reader hands me the following, which was taken from the *American Grocer*:

Rev. Dr. Lanahan, from Baltimore, a member of the Methodist General Conference, now in session in this city, and a member of the Committee on

Episcopacy, was sitting one afternoon this week at the Sturtevant House, when a newspaper man addressed him:

"You are being mentioned as a future bishop, Doctor."

"Bless your soul, young man, I'm ineligible."

"Ineligible, Doctor?"

"Yes. You see, I use tobacco. I both smoke and chew. I would rather smoke than be a bishop."

"Does smoking make you ineligible?"

"Well, the Conference is not going to elect any one who uses tobacco; and between the two, I lean to the cigar."

May God continue to bless the General Conference in the future as he has in years past; and may they never let up on tobacco, no matter whom it throws out.

KIND WORDS FROM OUR CUSTOMERS.

GOD'S GIFTS TO THE TILLER OF THE SOIL.

I do think gardening and tilling the soil brings us nearer Him who so wise and good as to bestow such mysterious blessings as these. GLEANINGS brings new courage even to me. I often feel like shouting "amen" to many of the talks therein. I know I should enjoy a look at your place, especially the fruits. I don't think, on the whole, you will ever get a strawberry to excel the Crescent, crossed with the Wilson. I have handled fruits for years, and I get the best results from these.

Hallowell, Me., Feb. 5.

E. P. CHURCHILL.

KIND WORDS FROM A SOUTHERN NEIGHBOR.

I commenced bee-keeping in 1885, with two American hives, from which I now have 22. I know you will say that I am not a modern bee-keeper; but the fact is, I knew but very little about the insect until I read your A B C. I did not get over 15 lbs. per colony this season, owing to the fact that it was out of the question to give them the necessary attention. My hives are almost all patterned after the Simplicity. I noticed, during the month of September and a part of October, that the yellow-jackets were robbing my bees. I contracted the entrance, but the mischievous things seemed to kill the bees and take possession of the hives. They can go where a bee can't, as they are some smaller, and they are tougher and harder to kill. I was greatly provoked to see them sting the bees to death at the entrance. However, on examination I found plenty of stores to carry the little fellows through the winter. The weather here at this date is like that of June—too warm to wear a coat with comfort. It is quite different, I guess, from the temperature in Medina. I would necessarily step around lively to keep comfortable with you in Ohio. I am running a steam cotton-gin, and a grist-mill also. I will run a small bee-hive factory to accommodate "myself and my neighbors." We have the best long straw-yellow pine lumber to make hives of. I know you would like it to work up into hives. It is, however, a fraction heavier than the lumber you work, but it is impervious to heat and rain, nor has it any unpleasant odor. The bees seem to accept it almost or quite as well as the white pine. Perhaps one of these days I will come to Medina and see your beautiful apiaries, the factory, the market garden, and see you sell strawberries by lamplight. We have some nice plants; and when they bear I will send you some early ones—that is, if you will divide with Mrs. R. and the little ones. I wish I lived nearer you; yes, I should like to live within a few hundred yards of you. I feel indebted to you for the moral good you have effected by your able articles in GLEANINGS from time to time. I really am anxious to meet you, and shake your hand, and know that it is A. I. Root. May we ever live in peace, and cherish the sacred, the beautiful, and the good! G. D. MIMS.

Falfa, S. C., Dec. 18, 1889.

Wait! Eggs! At half price from prize-winning Light Brahmas and Laced Wyandottes, \$1.50 per clutch, after April first. No stock for sale until fall. SIGEL F. GROSS, Atwood, Ill.

BURPEE'S SEEDS BEST

ARE THE

it is possible to produce by constant, most critical care, and are **WARRANTED**,—few equal and none better. Handsomely illustrated **CATALOGUE**, with colored plates painted from nature, of **RARE NOVELTIES** of sterling merit, mailed **FREE** to any address. **W. ATLEE BURPEE & CO., Philadelphia, Pa.**



In responding to this advertisement mention GLEANINGS.

DADANT'S FOUNDATION

Is kept for sale by Messrs. T. G. Newman & Son, Chicago, Ill.; C. F. Muth, Cincinnati, O.; Jas. Heddon, Dowagiac, Mich.; O. G. Collier, Fairbury, Nebraska; G. L. Tinker, New Philadelphia, Ohio; E. S. Armstrong, Jerseyville, Ill.; E. Kretschmer, Coburg, Iowa; P. L. Viallon, Bayou Goula, La.; Jos. Nysewander, Des Moines, Ia.; C. H. Green, Waukesha, Wis.; G. B. Lewis & Co., Watertown, Wisconsin; J. Mattoon, Atwater, Ohio, Oliver Foster, Mt. Vernon, Iowa; C. Hertel, Freeburg, Illinois; Geo. E. Hilton, Fremont, Mich.; J. M. Clark & Co., 1421 15th St., Denver, Colo.; Goodell & Woodworth Mfg. Co., Rock Falls, Ill.; **E. L. Good & Co., Brantford, Ont., Can.**; R. H. Schmidt & Co., New London, Wis.; J. Stauffer & Sons, Nappanee, Ind.; Berlin Fruit-Box Co., Berlin Heights, O.; E. R. Newcomb, Pleasant Valley, N. Y.; L. Hanssen, Davenport, Ia.; C. Theilman, Theilmanton, Minn.; G. K. Hubbard, Fort Wayne, Ind., and numerous other dealers.

LANGSTROTH on the HONEY-BEE, REVISED.

The Book for Beginners, the Most Complete Text-Book on the Subject in the English Language.

Bee-veils of Imported Material, Smokers, Sections, Etc.

Circular with advice to beginners, samples of foundation, etc., free. Send your address on a postal to

**CHAS. DADANT & SON,
HAMILTON, HANCOCK CO., ILLINOIS.**

In responding to this advertisement mention GLEANINGS.

BEE-KEEPERS

Coming to Washington, D. C., will find pleasant rooms and board (by day or week) at special rates. Satisfaction guaranteed. Central location.

1301 K. St., N. W. 3tfdb F. DANZENBAKER.

In responding to this advertisement mention GLEANINGS.

SECTIONS and SUPPLIES CHEAPER THAN EVER.

STRICTLY WHITE BASSWOOD V-GROOVE SECTIONS, SMOKERS, HONEY-CASES, BERRY-BOXES, AND A HOST OF OTHER GOODS.

Send for free price list and catalogue. Address

**G. B. & S. CO.,
Box 323, Goshen, Elkhart Co., Ind.**

In responding to this advertisement mention GLEANINGS.

MUST SELL!

50 Colonies Italian Bees at \$5.00 each, f. o. b., in 8-frame L. hives, telescope caps. Most of the combs built on fdn. in wired frames. These bees were very heavy in stores in the fall. Reasons: Can keep only about 25 colonies here in the city, and my business will not allow starting out-apiaries. Ship in April or May.

**W. E. YODER,
LEWISBURGH, UNION CO., PA.**

In responding to this advertisement mention GLEANINGS.

JAPANESE BUCKWHEAT AT \$1.20 PER BUSHEL. Eggs from pure-bred Partridge Cochins, and S. C. Brown Leghorns. Strawberry-plants. 4-5d C. B. JACKSON, Eau Claire, Eau Claire Co., Wis.

SEEDS. Don't buy your seeds or plants till you see my **FREE 1890 catalogue**. I offer something wonderful. Send for it. **F. B. MILLS, Thorn Hill, N. Y.**

PEACH TREES Wholesale and Retail. Send for prices. 4-5d **E. S. JOHNSTON, Stockley, Delaware.**

SECTIONS! SECTIONS! SECTIONS!

On and after Feb. 1, 1890, we will sell our No. 1 V-groove sections, in lots of 500, as follows: Less than 2000, \$3.50 per 1000; 2000 to 5000, \$3.00 per 1000. Write for special prices on larger quantities. No. 2 sections at \$2.00 per 1000. Send for price list on hives, foundation, cases, etc.

**J. STAUFFER & SONS,
Successors to B. J. Miller & Co.,
Nappanee, Ind.**

In responding to this advertisement mention GLEANINGS.

PATENT WIRED COMB FOUNDATION HAS NO SAG IN BROOD-FRAMES. THIN FLAT - BOTTOM FOUNDATION

Has No Fish-bone in Surplus Honey.

Being the cleanest is usually worked the quickest of any Foundation made.



**J. VAN DEUSEN & SONS,
Sole Manufacturers,
Sprout Brook, Montgomery Co., N. Y.**

In responding to this advertisement mention GLEANINGS.

\$6.00 Will Buy in 1890,

One of our Best Hives of Italian Bees with Tested Queen, or 5 for \$25.00.

In Simplicity or L. 10-frame hives; 250 colonies to 4-9db draw from. Address

JNO. A. THORNTON, LIMA, ADAMS CO., ILLINOIS.

In responding to this advertisement mention GLEANINGS.

\$1.50 REVERSIBLE 8-FRAME LANGSTROTH HIVE.

J. B. WILCOX, - - MANISTEE, MICH.

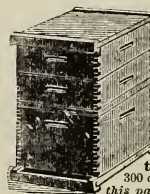
In responding to this advertisement mention GLEANINGS.

BEAUTIFUL BEES are always pleasing to the eye. GOOD QUALITIES are always profitable.

If you want Bees and Queens that combine beauty and good qualities to a marked degree, write for circular giving low prices. No circulars sent out unless applied for.

**CHAS. D. DUVAL,
Spencerville, Mont. Co., Md.**

In responding to this advertisement mention GLEANINGS.



BEES AND HONEY

The Dovetailed Strongest, Best and Cheapest BEE-HIVE for all purposes. Please everybody. Send your address to the **Largest Bee-Hive Factory in the World** for sample copy of **Gleanings in Bee Culture** (a \$1 illustrated semi-monthly), and a 44 p. illustrated catalogue of **Bee-Keepers' Supplies**. Our **A B C of Bee Culture** is a cyclopedia of 400 pp., 6x10, and 300 cuts. Price in cloth, \$1.25. *C. F. Mention this paper.* **A. I. ROOT, Medina, O.**



The Public Want

Their seed fresh and true.

Would they not be most likely to obtain such by buying **directly from the grower?** I can buy seed at half what it costs me to raise it, but could not sleep sound should I warrant seed of this class. For the same reason I make special effort to procure seed stock directly from their originators. You will find in my new seed catalogue for 1890 (sent **free**) the usual extensive collection (with the prices of some kinds lower than last season) and the really new vegetables of good promise. You should be able to get from me, their introducer, good seed of Cory Corn, Miller Melon, Hubbard Squash, All Seasons and Deep Head Cabbages and many other valuable vegetables, which I have introduced.

JAMES J. H. GREGORY, Marblehead, Mass.

In responding to this advertisement mention GLEANINGS.

For Perfect Draft, Simplicity, and Durability,
BINGHAM PATENT SMOKERS, AND
BINGHAM & HETHERINGTON UNCAPPING - KNIVES
ARE WITHOUT QUESTION

THE BEST ON EARTH.

Send for descriptive circular and testimonials.
1tfdb BINGHAM & HETHERINGTON, Abonia, Mich.

In responding to this advertisement mention GLEANINGS.

SAVE FREIGHT.

BUY YOUR SUPPLIES NEAR HOME AND
SAVE FREIGHT.

We carry a complete stock of Apiarian Supplies.
Our motto: Good goods and low prices. Illustrated
catalogue for your name on a postal card. 23-10db

R. B. LEAHY & CO., Higginsville, Mo.

In responding to this advertisement mention GLEANINGS.

FOR SALE.

A fine lot of spider, or Grayson Lily Bulbs, which
I will sell. Small bulbs 25c, large ones 50c, extra
large, 75c. Very beautiful and fragrant, pure white.
I also have 40 or 50 stands of mostly Italian bees for
sale. Will sell Queens in April. Would exchange
bees for registered Jersey heifer. S. G. WOOD,
4-9db BIRMINGHAM, JEFF. CO., ALA.

Cash for Beeswax!

Will pay 24c per lb. cash, or 27c in trade for any
quantity of good, fair, average beeswax, delivered
at our R. R. station. The same will be sold to those
who wish to purchase, at 30c per lb., or 35c for best
selected wax.

Unless you put your name on the box, and notify
us by mail of amount sent, I can not hold myself
responsible for mistakes. It will not pay as a general
thing to send wax by express.

A. I. ROOT, Medina, Ohio.

Barnes' Foot-Power Machinery.



Read what J. I. PARENT, of
CHARLTON, N. Y., says — "We
cut with one of your Combined
Machines last winter 50 chaff
hives with 7-inch cap, 100 honey-
racks, 500 broad frames, 2,000
money-boxes, and a great deal of
other work. This winter we
have double the amount of bee-
hives, etc., to make, and we ex-
pect to do it all with this Saw.
It will do all you say it will."

Catalogue and Price List Free. Address W. F. &
JOHN BARNES, 545 Ruby St., Rockford, Ill.

When more convenient, orders for Barnes' Foot-
Power Machinery may be sent to me. A. I. ROOT.

23tfdb

VANDERVORT COMB FOUNDATION MILLS.

Send for samples and reduced price list.

1fd JNO. VANDERVORT Laceyville, Pa.

TILLINGHAST'S NEW FLORAL ALBUM

Is not a seed catalogue but a magnificent
volume containing 270 Elegantly Colored
Plates, making the most Beautiful and
Extensive Collection of Floral Lithographs
ever published. The first copy cost over
\$2000.00. I will mail one copy for intro-
duction on receipt of 50 cents.

ISAAC F. TILLINGHAST, La Plume, Pa.

In responding to this advertisement mention GLEANINGS.

BEES FOR SALE

COLONIES,
NUCLEI,
AND QUEENS,

at living rates. Send for
circular and price list to

C. C. VAUGHN & CO.,

Columbia, Tenn.



In responding to this adverti.

ment mention GLEANINGS.

TAKE NOTICE!

BEFORE placing your Orders for SUPPLIES,
write for prices on One-Piece Basswood Sec-
tions. Bee-Hives, Shipping-Crates, Frames, Foun-
dation, Smokers, etc. Address

R. H. SCHMIDT & CO.,

21-20db

NEW LONDON, Waupaca Co., WIS.

ENGINES, SIMPLE AND COMPOUND.

We have been having built, specially for bee-hive
work, a superior grade of engines. They are
heavier, and better built, steel and wrought iron
being used in several of its parts where cast iron is
ordinarily used on ordinary trade engines. Our
prices are as low as can be obtained on engines of
an inferior grade. Prices: Simple engines, without
boiler, 2½-horse-power, \$75.00; 5-horse-power, \$100;
7½-horse-power, \$125; 10-horse-power, \$150. Com-
pound engines, without boiler, 2-horse-power, \$100;
4-horse-power, \$133; 6-horse-power, \$167; 8-horse
power, \$200. The above prices include lubricators,
throttle-valves, and governor belt. In our com-
pound engines the steam is used over again in a
larger cylinder, thus economizing fuel, and these in
small powers you will not be likely to get elsewhere.
We have tested these engines thoroughly, and they
give us good satisfaction. On engines and boilers
combined, write for prices. For further particu-
lars write us.

A. I. ROOT, Medina, O.

A Four-Color Label for Only 75 Cts. Per Thousand!

Just think of it! we can furnish you a very neat
four-color label, with your name and address, with
the choice of having either "comb" or "extract-
ed" before the word "honey," for only 75 cts. per
thousand; 50 cts. per 500, or 30 cts. for 250, postpaid.
The size of the label is 2½ x 1 inch—just right to go
round the neck of a bottle, to put on a section, or to
adorn the front of a honey-tumbler. Send for our
special label catalogue for samples of this and
many other pretty designs in label work.

A. I. ROOT, Medina, Ohio.

SEE OUR PRICES.

(We do not publish them here, but they are low).

THE W. T. FALCONER MFG. CO.,
JAMESTOWN, N. Y.,

Manufactures all **STYLES** of **HIVES**, **SECTIONS**, **SHIPPING-CRATES**, Etc. Also Dealers in **BEE-KEEPERS' SUPPLIES** of all **Kinds**. **A LARGE STOCK**, kept constantly on **Hand**, Ensuring **PROMPT SHIPMENT**.

SEND LIST OF WANTS, FOR SPECIAL ESTIMATE.

WE CAN NOT BE UNDERSOLD.

NEW ILLUSTRATED CATALOGUE AND PRICE LIST FREE.

Drop us a Card with Your Name on. Mention Gleanings.

REMOVED, from Coburg to **RED OAK, IOWA**, my entire factory for

BEE SUPPLIES.

Wholesale and Retail.

40-page illustrated catalogue FREE to all. Address **E. KRETCHMER, Red Oak, Iowa.**

In responding to this advertisement mention GLEANINGS.

J. FORNCROOK & CO.,

MANUFACTURERS OF THE

"BOSS" ONE-PIECE SECTIONS,



Will furnish you the coming season, **ONE-PIECE SECTIONS**, sandpapered on both sides, as cheap as the cheapest, and better than the best.

Write for prices.

Watertown, Wis., Jan. 1, 1890.

3-5d

In responding to this advertisement mention GLEANINGS.

Western Bee-Keepers' Supply House

Root's Goods can be had at Des Moines Iowa, at Root's Prices.

The largest supply business in the West. Established 1885

Dovetailed Hives, Sections, Foundation, Ex-

tractors, Smokers, Veils,

Crates, Feeders, Clover

Seeds, etc. Imported

Italian Queens, Queens and

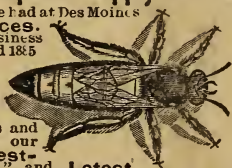
Bees. Sample copy of our

Bee Journal, "The West-

ern Bee-keeper," and Latest

Catalogue mailed Free to Bee-keepers.

JOSEPH NYSEWANDER, DES MOINES, IOWA.



In responding to this advertisement mention GLEANINGS.

BEE-HIVES, SECTIONS, ETC.

WE make the best Bee-Hives, Shipping-Crates, Sections, etc., in the world, and sell them the cheapest. We are offering our choicest white one-piece $4\frac{1}{4} \times 4\frac{1}{4}$ sections, in lots of 500, at \$3.50 per 1000.

Parties wanting more should write for special prices. No. 2 sections, \$2.00 per 1000. Catalogues free, but sent only when ordered. Itfdd

G. B. LEWIS & CO., Watertown, Wis.

In responding to this advertisement mention GLEANINGS.

J. C. SAYLES,
HARTFORD, WIS.,

Manufactures Apiarian Supplies of Every Description. Catalogue Free to All.

3tfd Send Your Address.

In responding to this advertisement mention GLEANINGS.

EVERBEARING STRAWBERRY. Descriptive price list free.
4-5-6d **SETH WINQUIST, Russellville, Oregon.**

IMPORTED QUEENS.

In May and June, each, \$2 00

In July and August, each, 1 80

In September and October, each, 1 40

Money must be sent in advance. No guarantee on shipments by mail. Queens sent by express (8 at least), which die in transit, will be replaced if returned in a letter.

1-11d **CHAS. BIANCONCINI, Bologna, Italy.**

In responding to this advertisement mention GLEANINGS.

BEES. South Florida. QUEENS.

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